SUSTAINABLE FORT CARSON

ANNUAL REPORT 2012

ACHIEVING OUR VISION

DAVID L. GROSSO
COLONEL, U.S. ARMY
GARRISON COMMANDER

SUSTAINABILITY STRATEGY

BENEFITS THE ENTIRE COMMUNITY

Sustainability is a strategy that increases the security of the installation and surrounding communities. Using precious resources wisely and reducing dependency while developing new resources enhances our ability to support the mission and safeguard the health of Warfighters and their Families. Taking care of natural resources in this way benefits all people who live or work on Fort Carson and in the region with cleaner air to breathe, water to drink and land to live on and enjoy.

Since approximately 70 percent of Soldiers live off post, Sustainable Fort Carson and its achievements greatly impact the Pikes Peak Region and its quality of life. Put simply, healthy Soldiers plus healthy families equals healthy communities. A healthy community is a sustainable, resilient community.

Because of its accomplished track record for sustainability, the Army selected Fort Carson in 2011 as one of two installations to achieve net zero energy, water, and waste by 2020. As a triple "Net Zero" installation, Fort Carson's overarching goal is to "zero out" its waste, water and energy consumption by 2020. "Net Zero" is a sustainability strategy that builds upon the goals and achievements of Sustainable Fort Carson, which was formally founded 10 years ago.

Reaching toward sustainability and Net Zero goals enhance the security of the installation and the region – today and in the future!

SUCCESS BY THE NUMBERS

14.7%	Reduction in Energy Use Intensity
47%	Reduction in Water Use Intensity
45.2%	Waste Diversion Rate
23	More than 23 miles of running trails, pedestrian lanes and bike paths
57	High Performance Energy Efficient Buildings Leadership in Energy and Environmental Design (LEED) Buildings constituting one of the largest collections of federally funded USGBC LEED certified projects at a single location.
9,000	In-Processing Soldiers briefed per year (estimated) about sustainability and Net Zero strategies
24,302	Acres of land set aside by the ACUB program (Army Compatible Use Buffer) as conservation easements to create a significant buffer between training lands and neighboring communities, ensuring Fort Carson can sustain training for years to come.

A DECADE OF SUSTAINABILITY SUCCESS THROUGH PARTNERSHIP

Mary J. Barber, Installation Sustainability Resource Officer

Fort Carson's sustainability journey strengthens the well-being and resiliency of people and neighboring communities, optimizes energy and water security, benefits the built and natural environment, the military training mission and the all those who sustain the mission now and in the future.

Fort Carson has been a catalyst for the Pikes Peak Region to pursue a sustainable future for many years and especially since the first goal-setting conference with community stakeholders in 2002. During that conference we all learned about the principles of sustainability, and we selected aggressive goals for energy, water, transportation, partnership and other areas of concern to be achieved by 2027.

In 2011, Fort Carson self-nominated and was designated a Net Zero Pilot Installation. The Assistant Secretary of the Army for Installations, Energy and Environment set a target year of 2020 to achieve Net Zero energy, water and waste. Since the designation, we have accelerated all of our sustainability goals to be achieved or surpassed by 2020!

We understood from the beginning of our journey that it takes vision and commitment by leaders to achieve progress and success. It was also crystal clear that sustainability results could not be realized without strong military and community alliances and partnerships.

One of the most important outcomes of the effort has been the many formal and informal collaborative relationships and partnerships that have been forged for the mutual benefit of the partners. Antagonists have become supporters. And those who have not, challenge us to be better - open, transparent and accountable to the public trust. Ultimately, collaboration equals results.

Continued →

A DECADE OF SUSTAINABILITY SUCCESS THROUGH PARTNERSHIP

CELEBRATING 10 YEARS!

After many years on the sustainability frontier Fort Carson with its many partners has achieved many program successes and achievements toward the Sustainability goals (see Success by the Numbers) as well as several significant "Firsts":

- First in the U.S. Army to be awarded the U.S. Green Building Council's Gold certification for Leadership in Energy and Environmental Design (LEED) for 1st Armored Brigade Combat Team brigade and battalion headquarters building.
- Existing Building (EB) LEED certifiable building, which houses the Directorate of Public Works.
- Received LEED Platinum certification for 4th Armored Brigade Combat Team brigade and battalion headquarters on Wilderness Road.
- Largest solar array (2MW) in the Army when completed in late 2007.
- One of the first and most extensive Army Compatible Use Buffer programs in the DOD, with more than 22,000 acres of conservation lands buffering Fort Carson and securing future military training from incompatible land use.
- One of two Net Zero pilot installations for energy, water and waste designated by the Assistant Secretary of the Army for Installations, Energy and Environment in 2011.

In 2002, Garrison Commander COL Simeon Trombitas signed the Sustainability Charter at a public goal setting conference with 300 stakeholders in attendance.

Military growth impact planning and a collaborative climate brought about by local sustainability initiatives at Fort Carson and elsewhere in the region motivated local governments, educational institutions, businesses and individuals to team up to plan for a sustainable future. In March 2012, the initial phase of the effort concluded with publication of "Looking to Our Future – Pikes Peak Region 2030", which offers a framework to coordinate, collaborate and find regional solutions to current and future regional challenges. Military installations, businesses, local government, not-for-profits and individual citizens will need to work together to put plan and strategy into action in order to sustain and improve our quality of life.

Fort Carson continues to serve as a model community and technology demonstration platform offering replicable best practices and lessons learned for implementation in organizations, federal facilities and Army installations worldwide. We intend to continue to share what we've learned with other organizations at venues such as local community forums, regional planning events and the annual Colorado Sustainability Conference.

Looming fiscal uncertainties will undoubtedly create challenges for Fort Carson and the community in many areas. We will need the support of our region to continue the rate of success we have achieved to date. This is partly because of fiscal reality and partly because we've done the "easy" things. We will have to think holistically and invest resources (money, people and time) in the short-term in order to realize long-term benefit. "Doing the good stuff" will require new ideas, creativity and innovation as well as collaboration and partnership to be successful. We will be your partner in our continuing journey with an eye on the horizon – a sustainable future!

Mary J. Barber

Installation Sustainability Resource Officer

OUR GOALS 2020

Our vision for 2020 is powered by the recognition of our obligation to ensure that our Soldiers today – and the Soldiers of the future – have the land, water, and air resources they need to train; a healthy environment in which to live; and the support of local communities and the American people. The Sustainability goals for the installation (below) have been continuously refined since their formal adoption in 2002 with input from internal and external stakeholders.

Energy & Water Resources

Sustain all facility and mobility systems from renewable sources and reduce total water purchased from outside sources by 75%

Zero Waste

Total weight of solid and hazardous waste disposed of is reduced to zero

Air Quality

Reduce installation greenhouse gases (scope 1, 2 and 3) and other air pollutants to the lowest achievable emission rates

Sustainable Development

Create a community that encourages social, civic and physical activity while protecting the environment

Sustainable Procurement

All DOD and Fort Carson procurement actions support sustainability

Sustainable Transportation

Reduce automobile dependency and provide balanced land use and transportation systems

Sustainable Training Lands

Training ranges; maneuver lands; and associated air space capable of supporting current and future military training to standard while maintaining and sustaining training resources

OVERALL GOAL PROGRESS

The color-coded state of each section (red/amber/green) is a snapshot of how well Fort Carson is achieving its desired outcomes for a particular metric or goal. The determination is made by the Installation Sustainability Resource Officer, and presented to the Garrison Commander routinely.

	Status	Outlook
Energy & Water Resources		
Zero Waste		
Air Quality		
Sustainable Development		
Sustainable Procurement		
Sustainable Transportation		
Sustainable Training Lands		

- Success in achieving a goal or successful movement along a predetermined timeline within a goal plan.
- Positive movement toward goal objective or timeline is quantifiable, but not yet achieved.
- Significant impediments to goal objective or timeline exists. Future success in jeopardy.

SUSTAINABILITY & NET ZERO

A Net Zero Installation applies an integrated approach to managing energy, water, and waste to capture and commercialize the resource value and/or enhance the ecological productivity of land, water, and air.

Fort Carson's Triple Net Zero strategy is built upon long-standing energy efficiency and sustainability practices, mindset and vision, as well as a long term financial outlook.

The Net Zero initiative contributes to the Army strategy for sustainability and energy security, and supports compliance with a variety of federal mandates and statutes.

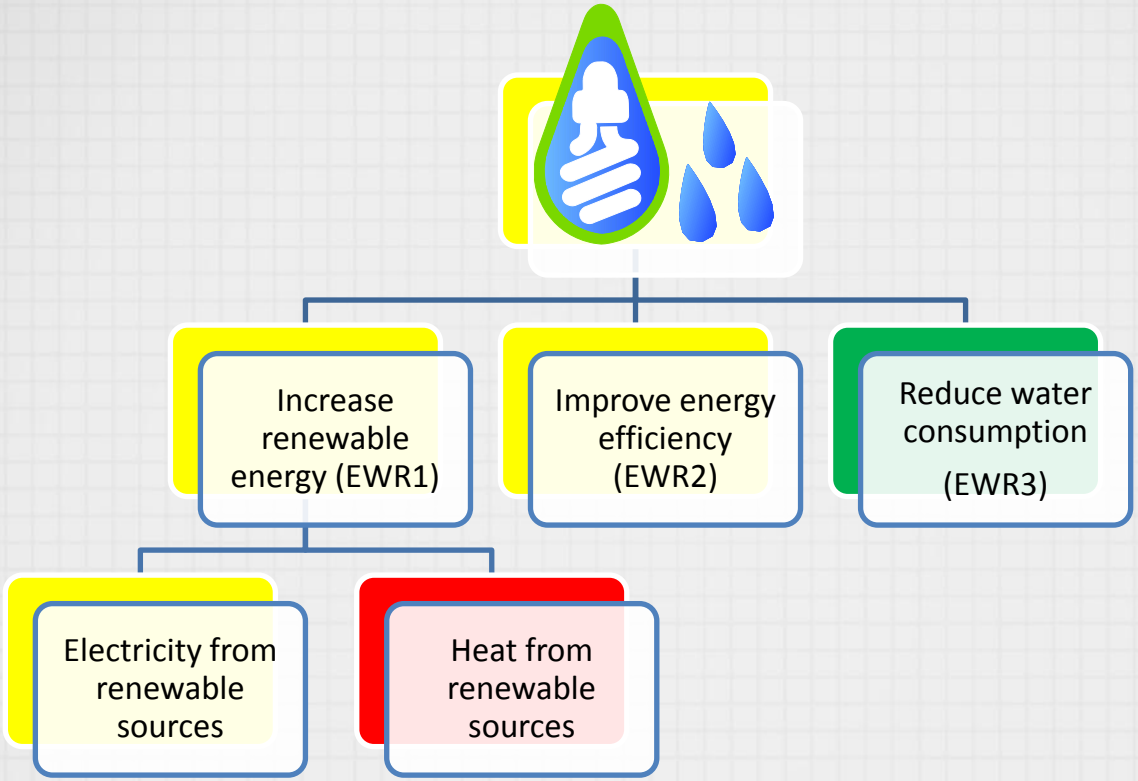
To accomplish Net Zero by fiscal year 2020, Fort Carson leverages intellectual and financial resources from the local community, industry, national laboratories such as the National Renewable Energy Laboratory (NREL), leadership support, federal incentives, federal grants and funds, Power Purchase Agreements (PPA) and Energy Savings Performance Contracts (ESPCs).

Where fiscally responsible and prudent, proven and emerging best practices and technologies are adopted to provide innovative solutions to manage energy, water and waste in such a way that production is balanced with consumption, and results in a net usage of "zero".

Sustainable installations are more mission capable, resilient and compatible with local community needs. Striving for Net Zero requires a sustainability mindset that recognizes the limits of natural resources, while providing increased energy and water security and enhanced operating flexibility.

For more information:
http://army-energy.hqda.pentagon.mil/netzero/

ENERGY & WATER



OVERALL ASSESSMENT

CHALLENGES Population changes, increase in building square footage, intensity of use, resource availability, communication with and education of a transitory population, user behavior, Net Zero by 2020

OUTLOOK

OPPORTUNITIES Enhanced opportunities for innovative public - private partnerships as a result of designation as a Net Zero Installation for Energy, Water and Waste

ENERGY & WATER

OBJECTIVE Increase Renewable Energy Use in Facilities.

PROGRESS

In 2012 the Installation received or offset approximately 16% of its energy needs from renewable sources; 3.5% is generated onsite. Renewable sources are defined as energy from non-petroleum sources such as wind, hydro and solar power.

A purchase of 80,000 MegaWatt Hours (MWH) per year of wind power scheduled to close during Fiscal Year (FY) 12 was actually completed in early FY13. Therefore the FY12 objective to receive or offset 40% renewable energy as compared to total energy consumed was met shortly after the close of the fiscal year.

The FY17 target is 60% facility energy to be provided by renewable sources.

As a Net Zero Energy Installation, our goal is 100% renewable energy – to generate as much energy as is consumed onsite over the course of a year by 2020. To achieve net zero energy, Fort Carson fosters a culture that conserves energy, finds innovative ways to implement energy saving projects, while aggressively pursuing renewable energy projects that are cost effective given current technology and market conditions.

ENERGY & WATER

FY12 RENEWABLE ENERGY PROJECTS

- Continued development of SPIDERS (Smart Power Infrastructure Demonstration for Energy Reliability and Security): a self-contained electrical system known as a "microgrid" which integrates renewable energy, local power, energy storage and load management.
- National Renewable Energy Laboratory (NREL) completed a Net Zero Assessment and Recommendations Report to identify opportunities to optimize energy efficiency and renewable energy strategy.
- The Army Environmental Command (AEC) completed a Renewable Energy Environmental Assessment that provides a framework for determining the feasibility and potential hurdles of renewable energy opportunities on post. Identified future sites for wind, waste to energy, biomass, and photovoltaic installations.
- Partnered with NREL to study the feasibility of a wood biomass energy plant with the potential to provide approximately 30% of the installation's electrical needs and 15% of its heating needs.
- Continued to refine concept plans for a Central Energy Plant for the proposed Combat Aviation Brigade site.
- Integrated renewable energy systems such as solar hot water and photovoltaics in new construction.

481 kilowatt (*kW)* *ground mounted photovoltaic array at Brigade Battalion Headquarters on Wilderness Road.*

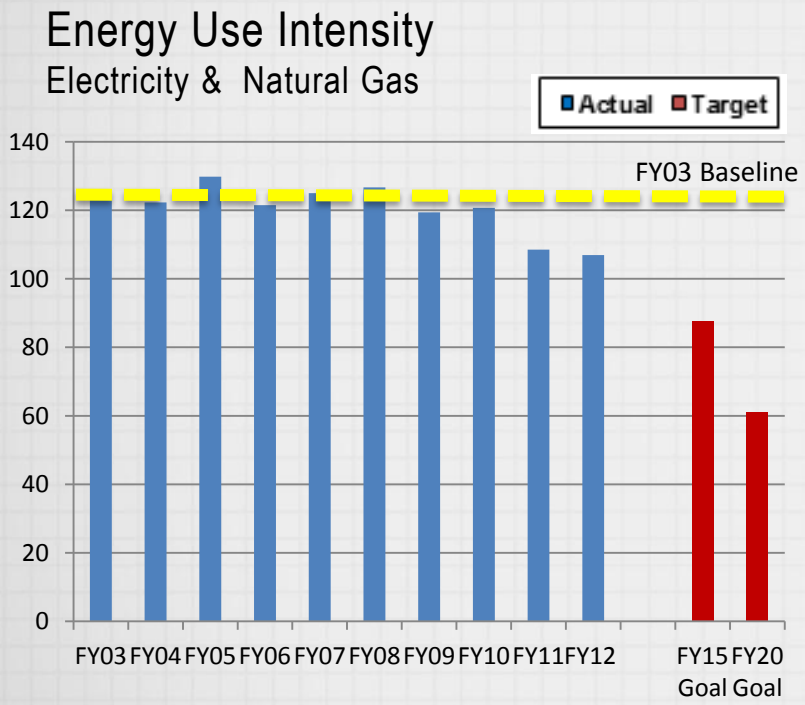
- Demonstrated capabilities of batteries in electric vehicles to store and release energy to provide backup power during grid outages.
- Participated with Colorado Springs Utilities and an organics supplier in a successful demonstration project that utilized used pallets and waste wood to produce energy at a power plant.
- Used grant funds under the Environmental Security Technology Certification Program (ESTCP) to demonstrate emerging technologies such as a combined heat and power Infinia* solar dish and a Biomax* biomass gasifier .
- Worked with Colorado Springs Utilities and wind providers to potentially purchase 7.5% to 30% of electrical energy from a wind power purchase.

* *Fort Carson in no way implies federal endorsement of the organizations or companies mentioned in this report.*

ENERGY & WATER

OBJECTIVE

Improve Facility Energy Efficiency By Reducing Energy Use Per Square Foot.



• *Energy Use Intensity, measured in thousands of British Thermal Units per square foot (KBTU/SF) is the combined energy use of natural gas and electricity per square foot of floor space. This metric does not include housing, which is privatized, and other exempt facilities.*

PROGRESS

Energy Use Intensity• reduced from a FY03 baseline of 125.3 KBTU/SF to 106.9 KBTU/SF in FY12, which is an efficiency improvement of 14.7%. Energy intensity in FY12 was reduced 1.5% compared to FY11.

Energy efficiency is expressed using square footage (as opposed to a per capita basis) due to the post's fluctuating population.

The installation is challenged to meet its internal target of 20% reduction in energy use intensity for FY14, and 30% reduction by FY17 (as compared to FY03 baseline). However, the installation is on target to meet the federal goal of 30% reduction by FY15 and the Net Zero target of 50% reduction by FY20, both relative to the FY03 baseline.

Optimizing building energy efficiency – through facility upgrades and operational changes involving building occupants - is a key strategy for achieving Net Zero Energy by 2020.

ENERGY & WATER

FY12 ENERGY EFFICIENCY PROJECTS

- Retrofitted high bay lights in 22 facilities. Metal halide fixtures were replaced with fluorescent lights and automatic timers, with an estimated reduction in energy use from 30% – 50% in some areas for a savings of approximately $60,000 annually.
- "De-lamped" over-lit areas in multiple facilities, installed occupancy sensors in corridors, and replaced exterior lighting switches with photo cell controls to eliminate lights being left on during the day.
- Replaced old and inefficient boilers and air conditioner systems in multiple facilities.
- Expanded the Meter Data Management System (MDMS), a web based system that captures electric and natural gas data. Data are analyzed and used for energy trending and opportunity analysis. The information is used in a "scorecard" which provides feedback to facility managers and building occupants to encourage behavior change.
- Worked with Building Energy Monitors in several facilities to monitor and promote better energy management.
- Conducted a "Behavior Intervention" pilot study in 5 buildings focused on increasing energy savings by motivating building occupants to change their energy behaviors, a collaboration between GSA (Government Services Administration) and the Department of Energy (DOE), and Department of Defense (DOD). The performance of high priority green building technologies and approaches was also tested as part of the demonstration project.

150 of the post's 900 facilities have high-tech smart meters installed. The meters tie into the Energy Management Control System, which runs heating, cooling, ventilation and lighting in a third of the facilities. The data collected helps maintenance personnel make recommendations for energy saving measures to building occupants. The smart meters also validate whether or not implemented energy initiatives work as intended.

ENERGY & WATER

STRATEGIES TOWARD NET ZERO ENERGY

A Net Zero Energy Installation produces as much energy on site as it uses, over the course of a year.

Fort Carson's 2011 designation as a pilot Net Zero Installation accelerates the timeline for Fort Carson to achieve energy goals to 2020 from 2027.

"WE USE A LOT OF ENERGY, AND THAT'S WHY WE LOOKED AT NET ZERO."

Honorable Katherine Hammack, Assistant Secretary of the Army for Installations, Energy and Environment

The strategy to reach Net Zero energy is to reduce overall energy use, maximize efficiency, implement energy recovery and cogeneration opportunities, and then offset the remaining demand with the production of renewable energy from on-site sources, so that the Installation produces as much renewable energy as it uses over the course of a year.

- Establish vision for renewable energy through incorporation into site plans.
- Continue valuable partnerships with NREL, Pacific Northwest National Laboratory (PNNL) and AEC.
- Develop energy and water efficiency projects utilizing an Energy Savings Performance Contract (ESPC) with Johnson Controls.
- Design new facilities with a focus on energy efficiency and "net zero ready" attributes.
- Maximize energy efficiency of existing buildings.
- Continue energy audits and feedback loops to reduce energy use through awareness and conservation.
- Continue to educate facility managers and building occupants to motivate energy conserving habits.
- Program FY13 – FY17 Energy Conservation Investment Program (ECIP) projects such as biomass boiler, transpired solar walls and exterior LED lighting.
- Enhance public – private partnerships.
- Elevate awareness of Net Zero Energy policies by daily briefings to incoming Soldiers.
- Involve the ASA Energy Initiatives Task Force (EITF) to coordinate potential projects.

CHALLENGES TO NET ZERO ENERGY

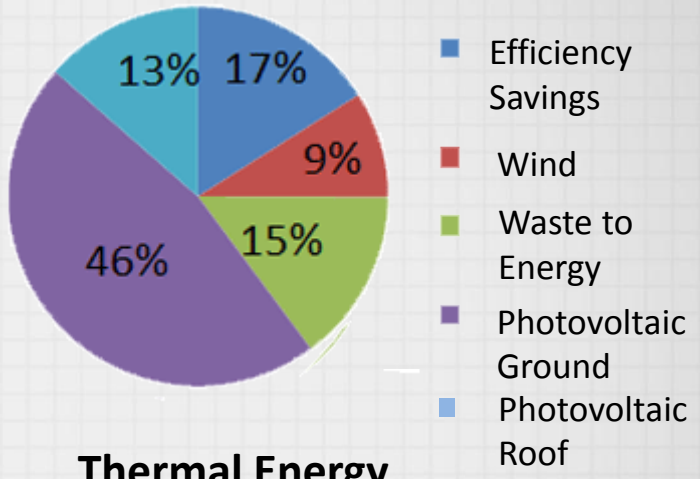
- No extra funding has been identified for Net Zero.
- Relatively low energy costs and expiring incentives.
- Utility provider does not share similar energy goals.
- Culture change and increasing plug loads. Americans have grown up with an entitlement to cheap and reliable utilities that help provide them with a high living standard.

STRATEGIES TOWARD NET ZERO ENERGY

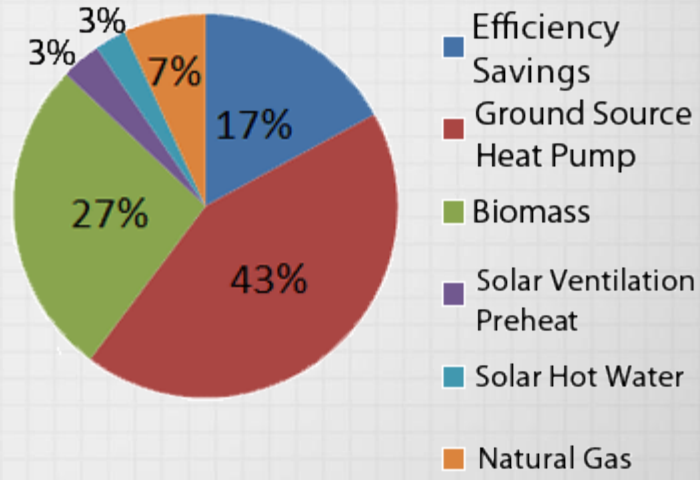
National Renewable Energy Labs (NREL) Recommendations

	Size	Energy Production (MMBtu)	LCOE (cents/kWh)
ELECTRICAL:	**100% Renewable**		
Wind	11.2 MW	84,082	5.80
Waste to Energy	5.6 MW	136,952	8.75
Photovoltaic - Ground	83 MW	431,902	17.45
Photovoltaic-Roof	24 MW	125,580	19.65
Ground Source Heat Pump		–38,268	
THERMAL:	**93% Renewable ($/MMBTU)**		
Ground Source Heat Pump	16,210 tons	410,451	$2.81–$4.64
Solar Ventilation Preheat	106,798 ft^2	31,964	$3.30
Biomass	45 MMBtu/h	254,617	$4.28
Solar Hot Water	52,686 ft^2	25,334	$6.34

Electric Energy



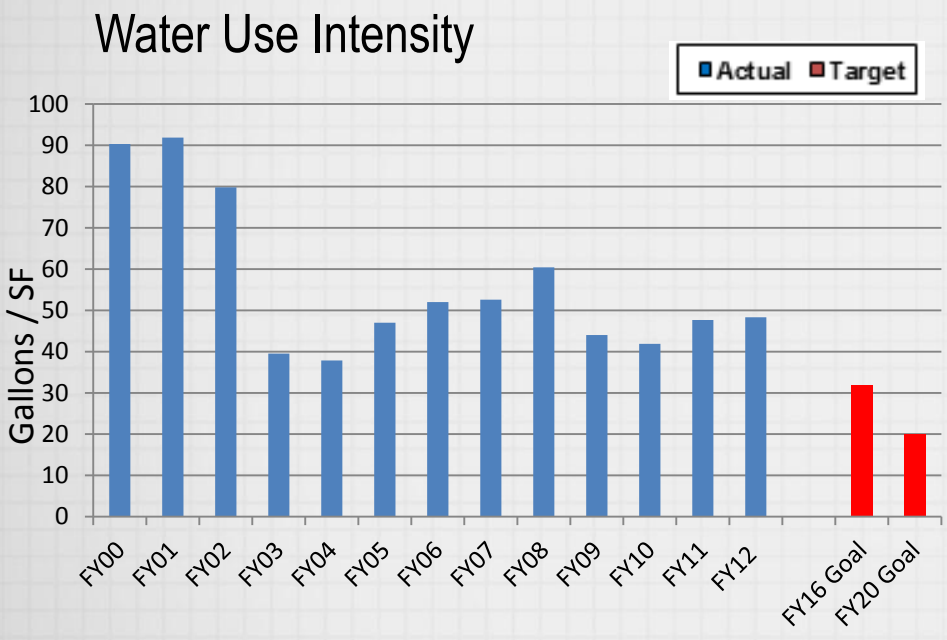
Thermal Energy



ENERGY & WATER

OBJECTIVE

Reduce the Amount of Potable Water Consumed.



• *Water Intensity is water use per square foot, not including housing which is privatized.*

PROGRESS

From an established FY02 baseline, water intensity• decreased 47% by the end of FY12.

The FY14 objective is a 45% reduction of potable water purchased from outside sources. This objective has been achieved ahead of schedule. The FY17 objective is a 60% reduction.

As a Net Zero Water Installation, our goal is to limit the consumption of freshwater resources and return water back to the same watershed so not to deplete groundwater and surface water resources in quantity or quality over the course of a year.

ENERGY & WATER

FY12 WATER CONSERVATION PROJECTS

- Pacific Northwest National Laboratory (PNNL) completed a Water Balancing Study which identified strategies and a roadmap to achieve Net Zero Water.
- Leak detection surveys were completed for about 20 percent of the post, where the oldest water lines are located. The survey found 57,000 gallons a day were lost due to leaks. Repairs were made at a cost of $50,000, with savings of water per year totaling $72,000. A leak reduction strategy was identified and implemented.
- Implemented landscape practices such as winter irrigation, deep aeration, and weather smart controllers.
- Utilized sustainable landscape and xeriscape at newly constructed buildings to reduce watering requirements.
- Installed waterless urinals and low flow fixtures in new construction.
- Worked with the U.S. Army Corp of Engineers to complete a non-potable water expansion study. An Energy Conservation Investment Program (ECIP) project planned for FY13 will expand the system to the Sports Complex.
- Retrofitted toilets, urinals, and showerheads at existing facilities through Energy Savings Performance Contract (ESPC) with Johnson Controls in concert with $37,500 in incentives from Colorado Springs Utilities.

A WeatherTRAK ET System was installed that uses global positioning system technology and weather stations to apply just the right amount of water based on current weather conditions. The system is estimated to save 50 million gallons a year by eliminating water wasted for an expected savings of $300,000 per year.

* *Fort Carson in no way implies federal endorsement of the organizations or companies mentioned in this report.*

ENERGY & WATER

A Net Zero water Installation limits the consumption of freshwater resources and returns water back to the same watershed so as not to deplete the region's groundwater and surface water resources in quantity or quality.

Fort Carson's recent designation as a pilot Net Zero Installation accelerates the timeline for Fort Carson to achieve water goals to 2020 from 2027.

STRATEGIES TOWARD NET ZERO WATER

An "Efficiency First" approach that seeks to reduce or eliminate water use where feasible by making the most efficient use of existing water sources.

- Research confirmed the viability of future expansion of the non-potable water system to Iron Horse Park, Sports Complex, Pershing Field, Founders Parade Field, and other irrigated areas. The projects will be done in 2 phases during FY13 - 14, and are expected to reduce total potable water use by 20% for an estimated savings of $700,000 per year.
- Reduce potable water consumption.
- Investigate feasibility of storing treated wastewater.
- Explore opportunities for beneficial use of stormwater and grey water.
- Install water meters.
- Fund a water rights study and master plan to benefit from and protect current water rights that are "use or lose".
- Implement North side reservoir improvements to support storm water runoff.
- Cease building wash racks in new construction; close wash racks in old facilities in favor of Central Vehicle Wash Facility, which saves approximately 60 million gallons per year.
- Work with Johnson Controls, Energy Savings Performance Contractor (ESPC) to finance high payback conservation opportunities such as installation of water efficient fixtures with a projected 5% total water reduction.
- Retrofit water fixtures with low or no-flow alternatives where cost effective.
- Make waterless urinals and other low-flow fixtures standard in new construction.
- Program funding to upgrade sprinkler heads that are 40% more efficient than existing.

CHALLENGES TO NET ZERO WATER

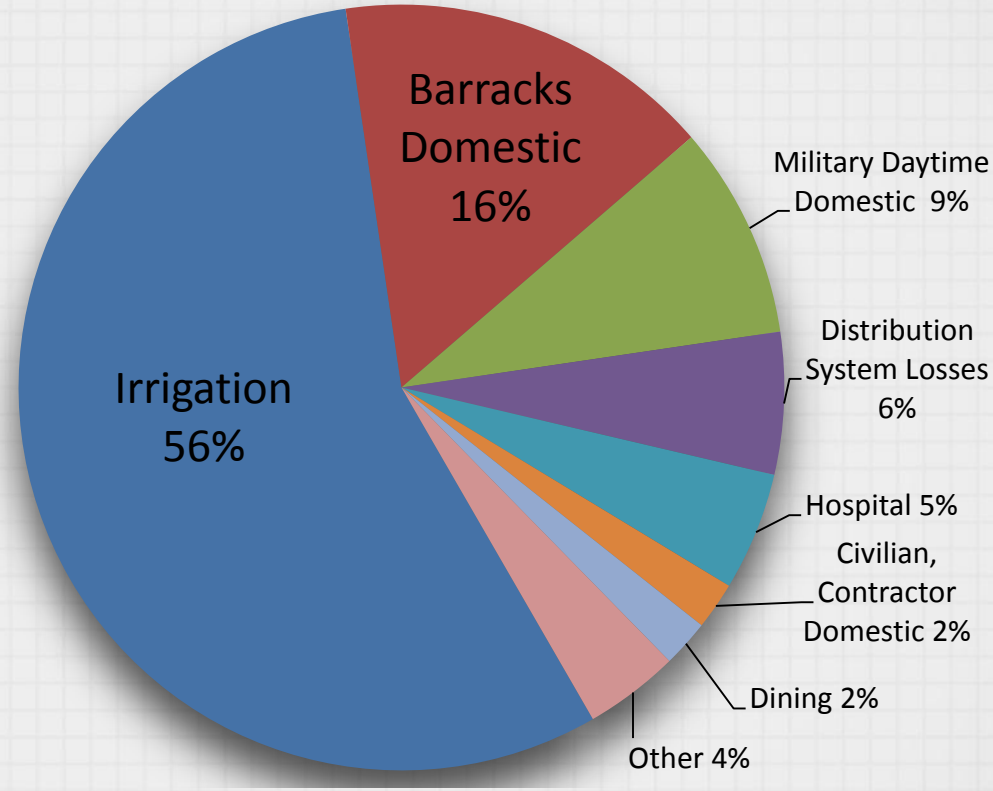
- Definition for Net Zero Water continues to be refined.
- State water laws limit opportunities.
- Balancing the desire for healthy turf in some areas with water consumption.

ENERGY & WATER

"IF WE DO NOT HAVE ENERGY AND WATER WHEN AND WHERE WE NEED IT, IT CAN LEAD TO MISSION FAILURE"

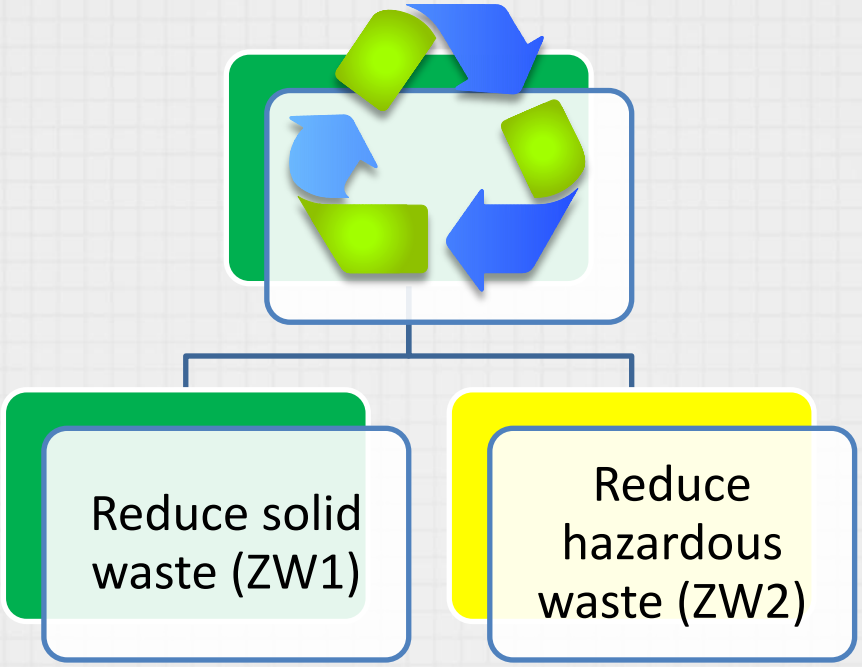
Honorable Katherine Hammack, Assistant Secretary of the Army for Installations, Energy and Environment

FORT CARSON WATER USE BREAKOUT EXCLUDING FAMILY HOUSING



Irrigation accounts for approximately 56% of total water use (excluding family housing). Reducing irrigation by using xeriscape will save about 50 million gallons per year at an estimated cost savings of $300,000.

ZERO WASTE



OVERALL ASSESSMENT

OUTLOOK

CHALLENGES Population growth, cycle of deployments and redeployments, resource availability, legal and other requirements, communicating policies and educating a shifting population, change in Army equipment creating new waste streams, enforcement of existing policies

OPPORTUNITIES Material substitutions and pollution prevention, Single Stream Recycling, Waste to Energy Systems, proposed on-site Material Recovery Facility

ZERO WASTE

OBJECTIVE Reduce Solid Waste Disposal through Sustainable Procurement Practices, Reduction in Material Use, Reuse and Recycling.

PROGRESS

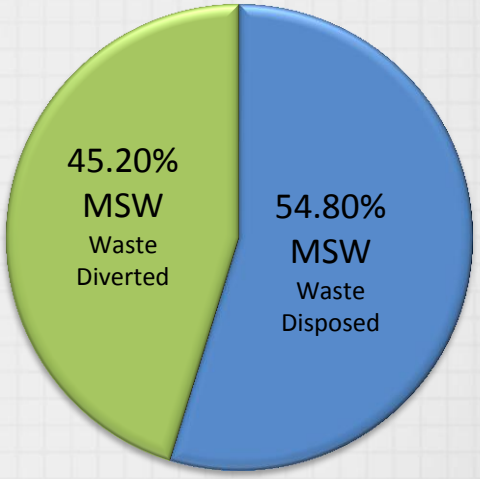
During FY12 15,337 tons of municipal solid waste (MSW) and 16,919 tons of Construction and Demolition (C&D) debris was generated on post for a total of 32,256 tons of waste. 22,261 tons was diverted from the landfill. The total diversion rate (including C&D) was 69%.

Of the 16,919 tons of construction debris generated, all but 1590 tons was diverted. Thus, approximately 90% of construction debris was diverted from the landfill.

Proceeds from the sale of recycled commodities was $1,045,528; enough to fund recycling program costs and $493,587 in environmental and recreation projects. It cost the installation approximately $978,000 to dispose of waste that was not repurposed or recycled, demonstrating the financial benefits of achieving the zero waste goal.

FY12 MSW Diversion and Disposal Rates

Municipal Solid Waste (MSW) does not include C&D (construction and demolition)



During FY12, the municipal solid waste diversion rate was 45.2%. Of the 15,337 tons of municipal solid waste generated on post, not including housing which is privatized, 6,932 tons was diverted from the landfill by recycling or reuse and 8,405 tons was disposed of in a landfill. Landfill tonnage decreased 400 tons as compared to FY11.

ZERO WASTE

PROGRESS

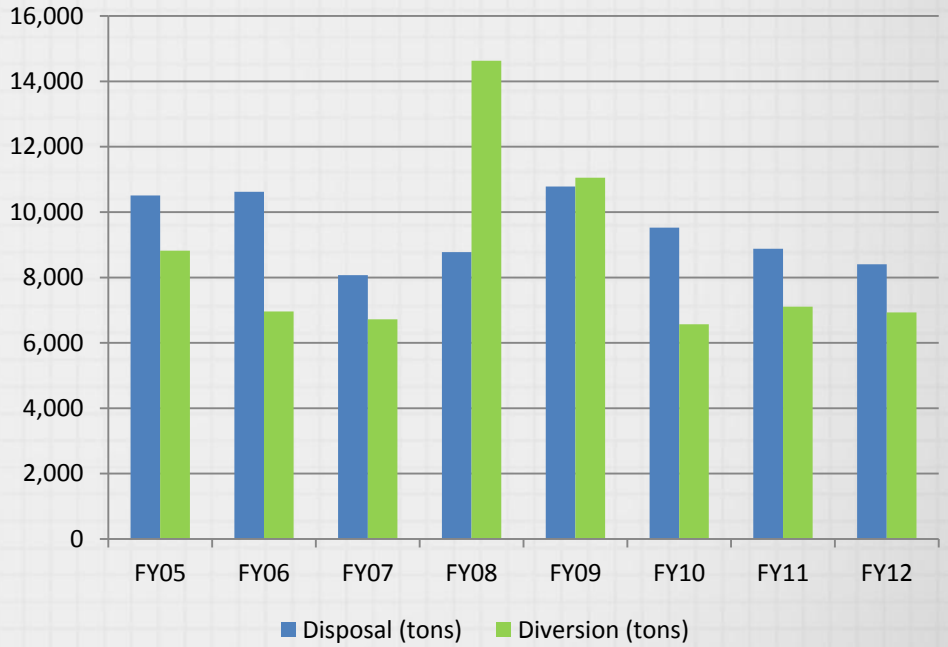
In FY12 the Installation disposed of 8,405 tons of solid waste, narrowly missing the FY12 target of 8,000 tons.

The Installation is on track to achieve the goal objective of 65% diversion rate by FY15, and its ultimate goal of Net Zero Waste by 2020.

Goal success demands that purchasers consider and reduce or eliminate waste that will be created when the useful life of a product or service is over and effectively use, reuse, repurpose or recycle all materials.

Achieving the goal has many benefits such as cost avoidance, maintaining mission capability, elimination of the need for landfills, protection of human health, and optimization of the use of limited resources.

Historical MSW Diversion and Disposal Rates



In FY12 the installation disposed of 8,405 tons of solid waste, a 5.3% improvement over FY11. In FY08 there was a large amount of construction activity. The diversion of construction and demolition debris from the landfill caused the upward spike in diversion as the above chart indicates.

ZERO WASTE

PROJECTS

Soldiers from 42nd Field Artillery Regiment, 1st Brigade Combat Team, 4th Infantry Division collected 4,346 pounds of recyclables. They earned the first place prize of $750 for their unit morale, welfare and recreation funds.

Participation in the Soldier's Incentive Award Program instituted in FY10 increased from 5 to 50 units.

The Directorate of Public Works Recycle Program staff began marking recycle dumpsters and roll offs containing the wrong recyclable commodity or trash with a yellow "Red Tagged" sign. Containers will not be picked up for emptying until the problem is corrected.

Wood recycling efforts have increased from zero (FY05) to approximately 1400 tons/year.

During FY12, Fort Carson participated in a successful demonstration project that utilized Fort Carson's used pallets and other waste woods to produce energy at a power plant.

ZERO WASTE

PROJECTS

Truckloads worth of old, no longer needed household, lawn care, auto - motive products and electronics were turned in by over 200 people participating in America Recycles Day household hazardous waste collection.

Fort Carson units participated in a nonmilitary electronics turn-in competition during the collection event, bringing in 2,061 pounds.

A total of 23,021 pounds of waste was diverted from the landfill in cooperation with El Paso County Household Hazardous Waste Facility broken down as follows:

- 10,660 pounds of electronic waste.
- 8,586 pounds of paints, stains and solvents.
- 2,525 pounds of automotive products (antifreeze, oil, batteries, cleaners).
- 803 pounds of household toxic liquids (bleach, cleaners, ammonia).
- 351 pounds of toxic solids (fertilizer, pesticides, rodent poisons).
- 48 pounds of data media (DVDs, VHS tapes, CDs).
- 48 pounds of printer and toner cartridges.

Other FY12 Zero Waste Projects:

- Composting at three DFACs.
- Mattress and Electronics recycling drop off points created at PX Recycle Point.
- Established a pilot net zero waste program in several buildings.
- Single stream recycling initiative in the barracks.
- Continued use of high impact orange “Net Zero Effect” Smith electric truck to pick-up recyclable materials.
- Continued dissemination of the Environmental “Battle Book”, a collection of “fact sheets” containing useful information about the proper management and disposal of common materials and substances.
- Awareness and education opportunities such as Earth Day, Make a Difference Day and America Recycles Day.

ZERO WASTE

A Net Zero Waste Installation is an installation that reduces, reuses, and recovers waste streams with zero solid waste to landfills

Fort Carson's recent designation as a pilot Net Zero Installation accelerates the timeline for Fort Carson to achieve waste goals to 2020 from 2027.

STRATEGIES TOWARD NET ZERO WASTE

- Continue an assessment for a material recovery facility that would aid in recovering recyclable material from waste that would otherwise go to a landfill.
- Offer paper shredding for destruction of documents containing "Personally Identifiable Information".
- Introduce Single Stream Recycling in unit areas.
- Continue program expansion through purchases of recycle collection containers and material processing equipment.
- Conduct waste audits at units.
- Conduct a survey to gather feedback about the Recycling Program.
- Continue reduction of hazardous waste through paint thinner and parts washer distilling, heptane recycling and battery recycling.
- Continue the Unit Recycle Incentive Program to encourage unit awareness and participation in reducing waste.
- Expand the facility pilot Net Zero waste initiative started in Building 1219 to other buildings. Strategies include recycling to the highest extent, use of composting bins, removal of personal trash cans and encouraging staff to consider what items they bring from off-post in order to eliminate waste.
- Follow Sustainable Procurement practices that require less packaging, ordering in bulk and recycled product content.
- Elevate awareness of Net Zero program and policies by daily briefings to In-processing Soldiers.

CHALLENGES TO NET ZERO WASTE

- Motivating the population to participate in recycling programs.
- Markets for some items (Styrofoam) not readily available or cost effective.
- The results of "Waste to Energy" study demonstrated that the technology is feasible but not yet cost effective.

ZERO WASTE

OBJECTIVE

Waste Disposed of through the Hazardous Waste Storage Facility (HWSF) is Reduced through Sustainable Procurement Practices, Reduction in Material Use, Reuse and Recycling.

PROGRESS

Total hazardous waste disposal in FY12 was 61,959 lbs. The FY12 target of a 30% reduction from the 2005 baseline, or 46,000 lbs, was not met.

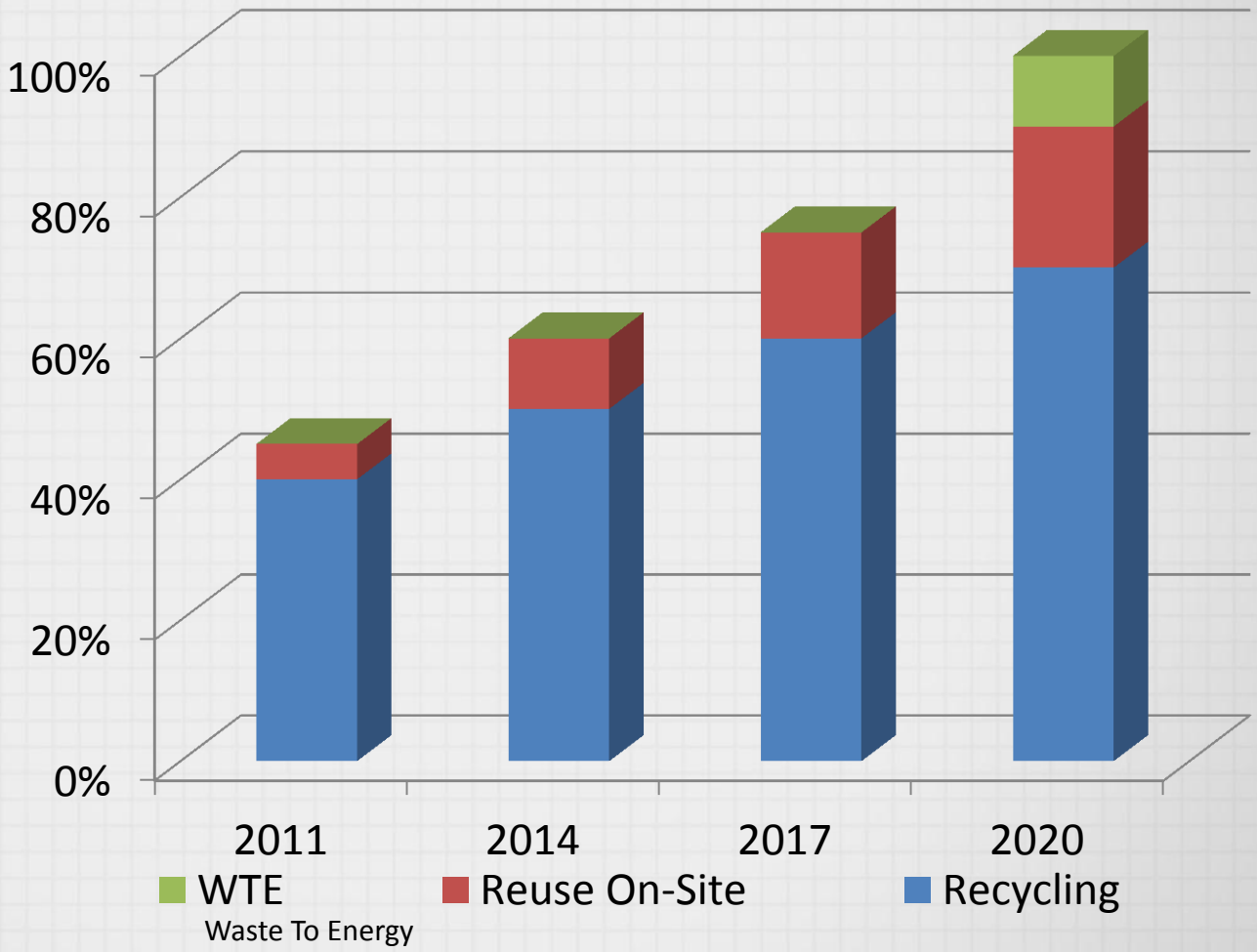
- $15,000 was saved as a result of continued recycling of heptane.
- 15,260 lbs of fluorescent lamps were crushed and recycled.
- 18,000 lbs of batteries were recycled, of which 3,000 lbs were rechargeable, resulting in a savings of $6,000.
- Instead of disposal in a landfill, latex paint was mixed with ash in a solidifier and used as a landfill cover resulting in cost avoidance of $12,000.

ZERO WASTE

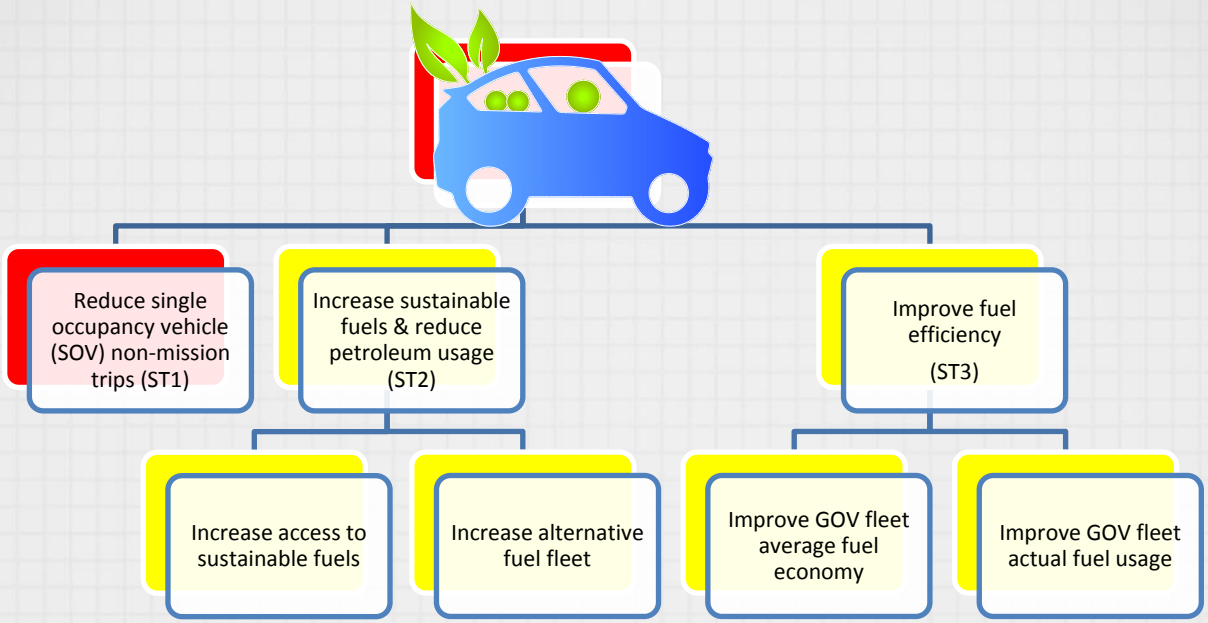
"EVERY PLASTIC WATER BOTTLE TAKES FOUR OUNCES OF PETROLEUM TO MAKE THE WATER BOTTLE, TO PROCESS THE WATER, TO FILL THE BOTTLE, TO DISTRIBUTE THE WATER BOTTLES AND THEN TO PROCESS THEM AT ITS END OF LIFE"

Honorable Katherine Hammack,
Assistant Secretary of the Army for Installations, Energy and Environment

NET ZERO WASTE STRATEGY



SUSTAINABLE TRANSPORTATION



OVERALL ASSESSMENT:

OUTLOOK:

CHALLENGES: Population growth, car culture, public transit limitations, resource availability, legal and other requirements, land use policy & planning (road expansion vs. alternatives), communicating policies and educating a shifting population, fleet reduction, alternative fuels, alternative modes (shuttle, bikeshare, etc)

OPPORTUNITIES: More alternative fuels usage and infrastructure, bikeshare and rideshare programs, increased pedestrian and bike lane connectivity

SUSTAINABLE TRANSPORTATION

OBJECTIVE

Reduce (SOV) Single Occupancy Vehicles for Non Mission Trips.

PROGRESS

Currently 94% of Fort Carson commuters drive alone to work; a metric that has remained constant since the first counts were made in 2005. This is a reflection of the percentage of solo drivers within the Pikes Peak region as a whole.

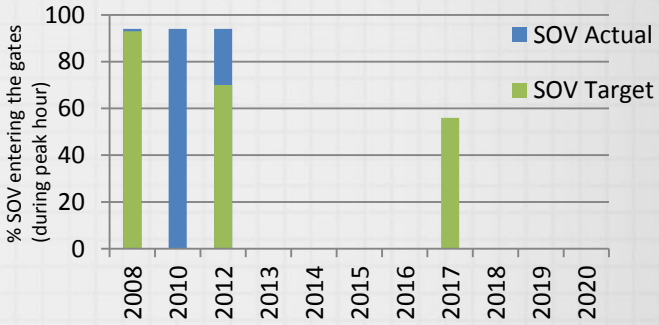
The objective to reduce SOV commuter trips by 25% by 2012 has not been met in spite of initiatives undertaken in support of the goal including on post shuttle, offering rideshare, vanpool options and developing an extensive network of bike lanes and trails.

Therefore this goal has been revised to reduce SOV commuter trips by 5% by FY15; 10% by FY17 and 15% by 2020. Given our national car culture and local circumstances that do not discourage solo driving, city transit services do not currently enter the post, creating a "last mile" challenge for riders trying to get to work at Fort Carson.

Substantial commuter incentives, parking fees and/or multi-million dollar investments in alternative mobility infrastructure such as driverless vehicles or personal rapid transit which could help reach the targets are largely unsupported at this time. Army tradition and guidelines for conducting Soldier physical training and limiting shuttle/bus services also present barriers.

In spite of current conditions – increasing populations - that create significant obstacles to goal progress, Fort Carson continues to build and enhance programs and infrastructure to meet this goal. Reducing SOV commuter trips to Fort Carson benefits commuters on adjacent roadways and reduces or avoids taxpayer expense to repair or widen roads.

Percent Reduction in SOV Commuters by Fiscal Year



We desire to reduce the percentage of people commuting alone in their vehicles to Fort Carson from 93% in fiscal year 2008 to 70% (a 25% reduction) in FY2012 and 56% (a 40% reduction) by FY2017 using a 2008 baseline. We did not meet the target in 2012. The targeted reductions will be re-evaluated in 2013. Without a significant change in how we think about mobility and travel, these targets will be extremely difficult to achieve.

SUSTAINABLE TRANSPORTATION

OBJECTIVE

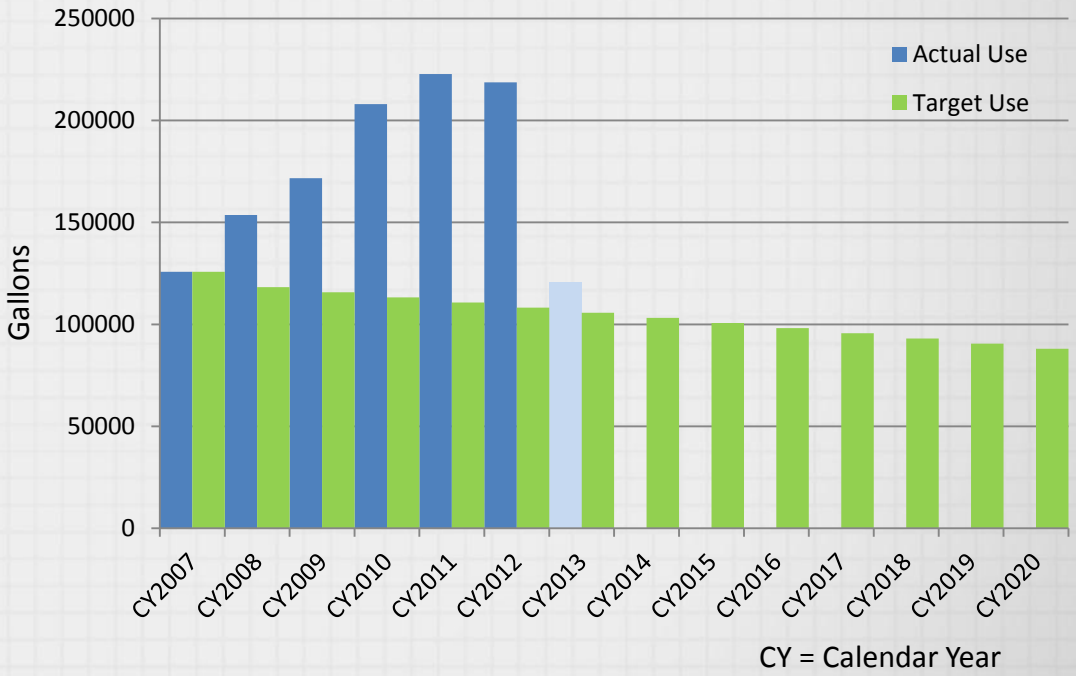
Reduce Petroleum Use.

PROGRESS

The target for this objective is to reduce petroleum fuel use by the Non Tactical Vehicle (NTV) fleet by 30% by 2020 compared to a 2007 baseline. Our total gasoline and diesel usage from Oct 1, 2012 thru Jul 31, 2013 is 120,872 gallons, exceeding our target.

The DOD Strategic Sustainability Performance Plan goal is: Use of Petroleum Products by Vehicle Fleets Reduced 30% from FY05 by FY20.

Gallons of Gasoline and Regular Diesel
(based on DOD Strategic Sustainability Plan targets)



CY = Calendar Year

SUSTAINABLE TRANSPORTATION

OBJECTIVE

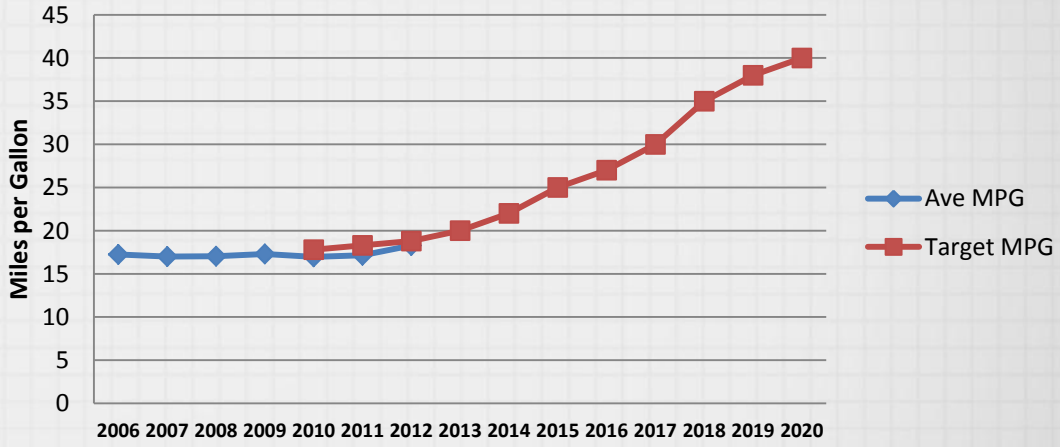
Improve Transportation Fuel Efficiency.

PROGRESS

The target of 40 miles per gallon is based on Corporate Average Fuel Economy (CAFÉ) standards that require cars and light duty trucks to improve fuel economy to the equivalent of 35.5 mpg for model years by 2016 and 54.5 miles per gallon by model year 2025. The purpose of the CAFÉ is to reduce energy consumption and decrease greenhouse gases by increasing the fuel economy of cars and light trucks. It has the added benefit of reducing costs to the consumer at the pump.

Lighter vehicles also have less impact on road and highway infrastructure, but lower fuel tax collections could affect funding for road repair and maintenance.

Estimated Non Tactical Vehicle (NTV) Fleet Average Fuel Economy



Source: DOL/GSA list of NTVs; average fuel efficiency based on the EPA estimated fuel economy (www.fueleconomy.gov) for those vehicles in the NTV fleet for which data are available.

SUSTAINABLE TRANSPORTATION

PROGRESS

The Fort Carson Post Shuttle is part of a system of transportation alternatives designed to reduce air pollutants, save fuel, reduce vehicle ownership costs and encourage people to leave their personal vehicle at home.

It provides alternatives for rideshare users and “non-choice” transit riders. (Non-choice riders include approximately 100 disabled workers lacking transit to on post worksites).

To make the system more robust, initiatives are underway to increase ADA compliant buses, create a transfer point from Pikes Peak Community College to Fort Carson, and connect to other potential shuttle systems in neighboring communities.

The shuttle provides many benefits including:

- Reduce air pollution.
- Mitigate parking demand.
- Cost savings for gasoline and automotive maintenance for Installation personnel.
- Create a sense of place and community, and connects people and places, encouraging expansion of social networks.
- Reduce maintenance frequency on post and on adjacent roadways.
- Less congestion at gates and on-post.

(Left) Rick Orphan, Directorate of Public Works, Traffic Engineering and Planning, installed shuttle map and route information at the shuttle “bubbles” stops in preparation for the launch of the free Post service.

SUSTAINABLE TRANSPORTATION

PROGRESS

Building 1013 HHC. Sign up at CQ desk to rent a bike for free! Miles of fitness trails, paths and newly constructed bike lanes connect you with other people and places on Fort Carson.

Rideshare on a daily or weekly basis, share a ride at lunch, or simply help someone out who needs a ride.

Make on the spot plans with someone in need of a ride standing at one of the signs. This program is voluntary and at your own risk.

Join at www.springsgov.com transit service. Free online carpool matching, to and from Post.

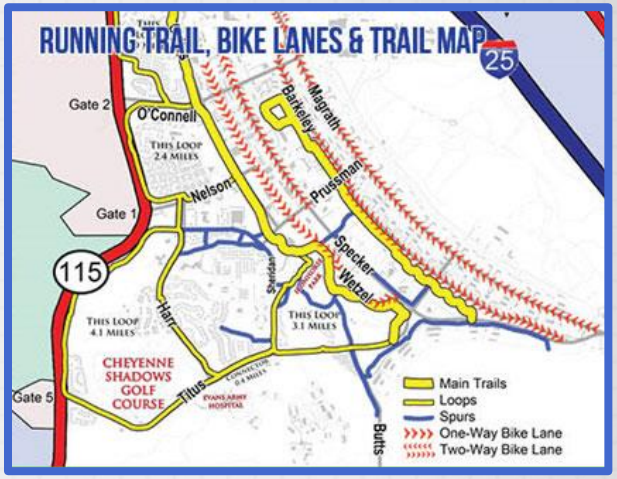
Walk for Recreation, Spiritual Fitness, Physical Fitness, Health & Wellness, & Commuting to Work, Meetings or Lunch

The shuttle system and Running Trail & Bike Map encourage people to rethink their commute to and within the installation by using an appropriate combination of ridesharing, vanpooling, biking and walking.

Army and civilian personnel who use mass transit and van pools are eligible for the Army Mass Transit Benefit which helps to defer the cost of commuting.

The new Running Trail & Bike Map connects people and places on Fort Carson and encourages expansion of social networks and community, while also impacting health and wellness, physical and spiritual fitness. The map provides information for the use of alternative transportation and also incorporates safety information.

Other initiatives part of the Sustainable Transportation Plan are: Anti Idling Program, Transit Priority (HOV) Gates and Lanes, and Electric Vehicles and Alternative Fuels Infrastructure .



More than 20 miles of trails, pedestrian paths and newly constructed bike lanes are available on Post for recreation and transportation.

SUSTAINABLE TRANSPORTATION

PROGRESS

In FY12, 4 Smith* Electric Vehicles (EVs) were in use on post. One more EV – an electric bus – is expected to be delivered during FY13.

The all-electric vehicles, which can haul more than eight tons of cargo, include a fully-loaded weapons reset work truck, two stake bed trucks and a refrigerator box truck.

According to the vehicle specifications, the trucks can reach a top speed of 50 mph and travel up to 100 miles on a single charge. The EVs' lithium ion batteries takes 6 to 8 hours to fully charge and has an estimated 15-year lifecycle.

A 100-mile trip in one of the EVs would cost approximately $12, compared to an average of $40 for a diesel-fueled vehicle to make the same trip, including operation costs, fuel, maintenance and repairs per mile — a 70% savings for the Army.

The EVs are part of a demonstration project to test how well they perform in a real world environment and to collect data to determine if they are cost effective and will ultimately save the Army money in larger scale applications.

The EVs are part of Fort Carson's SPIDERS (Smart Power Infrastructure Demonstration for Energy Reliability and Security): a self-contained electrical system known as a "microgrid".

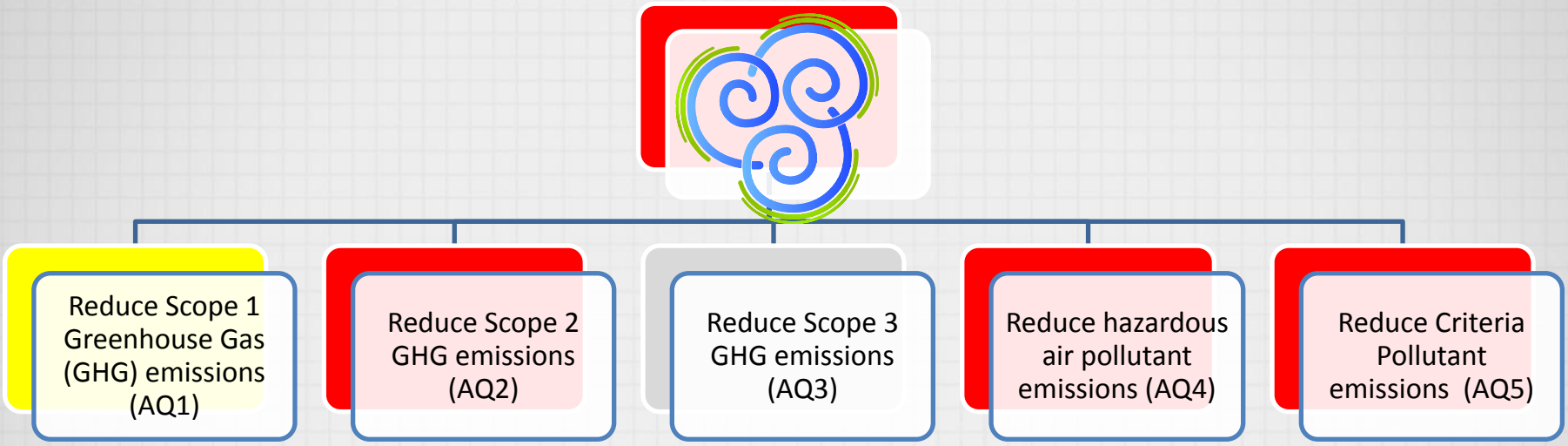
Each vehicle fully charged can provide ¼ of the power that Fort Carson's 2MW solar array provides.

The vehicles have a "vehicle to grid" capability; the vehicles act as dynamic energy storage devices to help buffer power supply, provide load shedding, and integrate renewable solar and wind energy sources into the grid.

The ability to control energy in and out of EVs will reduce facility energy costs, and provide backup power during grid outages, enhancing energy security.

* *Fort Carson in no way implies federal endorsement of the organizations or companies mentioned in this report.*

AIR QUALITY



OVERALL ASSESSMENT

CHALLENGES Population growth / vehicle emissions, facility construction, cycle of deployments and redeployments, data collection and resource availability, legal and other requirements, communicating policies and educating a shifting population, dependency on success of energy and transportation reductions

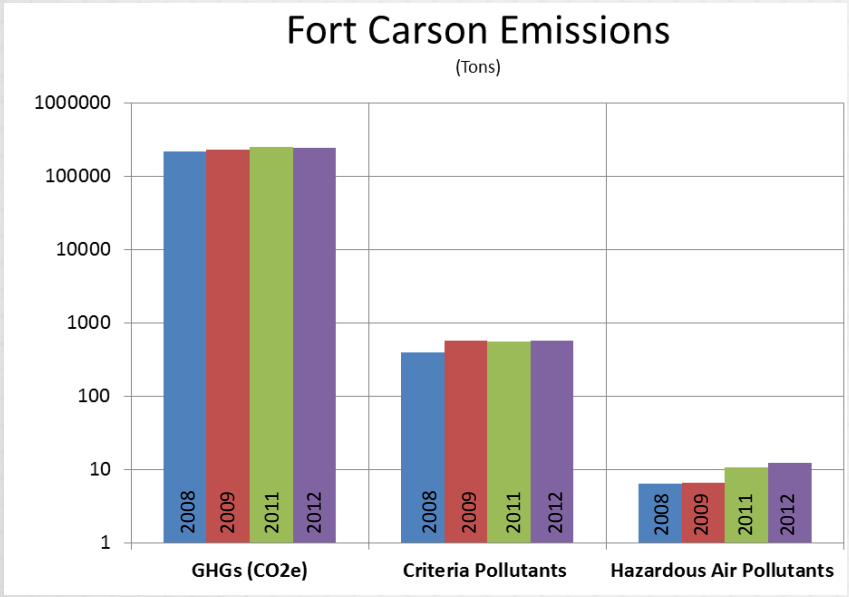
OUTLOOK

OPPORTUNITIES Achievement of other goals such as energy and transportation; increasing availability of infrastructure for alternative fueled vehicles; increased ridership of post shuttle; growing popularity of biking and walking; and regional sustainability efforts

AIR QUALITY

GOAL Reduce Installation Greenhouse Gases and Other Air Pollutants.

PROGRESS



In general, Greenhouse Gas Emissions (GHGs) and Criteria Pollutants have remained relatively stable over a 4 year period while Hazardous Air Pollutants (HAPs) have increased. Reducing HAPs on a growing installation, while still meeting military mission is a challenge.

The air on Fort Carson is the same air the community breathes off the installation, making it an environmental issue that impacts everyone regardless of gates, fences and boundary lines.

The long-term goal for this plan is to reduce installation greenhouse gases and other air pollutants to the lowest achievable emissions rates by 2020.

Original goal targets for the reduction of GHGs and other pollutants were overly enthusiastic. Therefore, targets for GHGs and other pollutants are currently being revised to recognize the population growth the Installation has experienced as well as the increased square footage of buildings due to the number of new facilities constructed.

The following activities and operations conducted on the Installation directly effect air emissions :

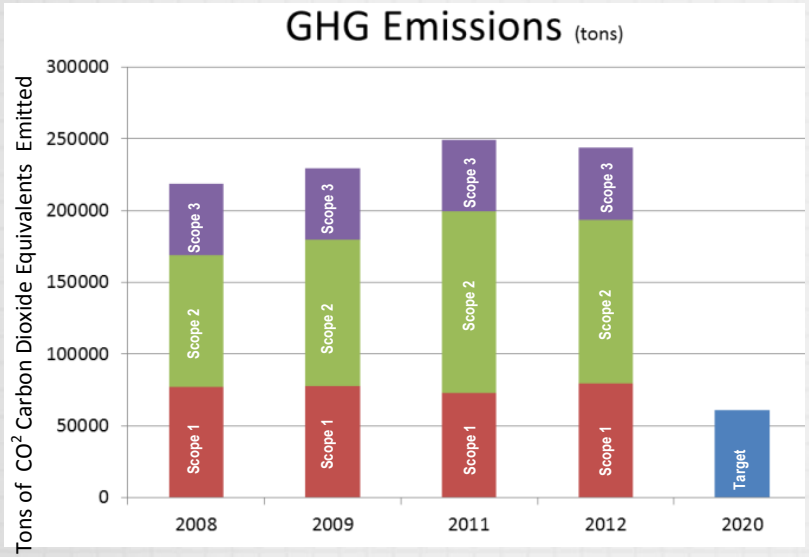
- Facilities Heating and Cooling Operations
- Materials and Resource Procurement
- Facilities Construction and Maintenance Operations
- Tactical Equipment Maintenance Operations
- Facilities Energy Use
- Military Training
- Employee Commuting and On-Post Transportation
- Land Use Management and Changes

AIR QUALITY

OBJECTIVE

Reduce Installation Greenhouse Gases.

PROGRESS



GHGs (greenhouse gas emissions) are measured in tons of CO2 Carbon Dioxide Equivalents emitted. There are 3 categories of emissions: Scope 1 (directly emitted from Fort Carson), Scope 2 (indirectly emitted from Fort Carson from electricity use) and Scope 3 (3rd party emissions as a result of business practices, such as the impact of an employee taking a business trip by plane).

GHGs have remained relatively stable with the exception of Scope 2 which increased slightly from the 2008 baseline but decreased from 2011 to 2012. Reduction of GHG emissions has not been achieved as per the goal.

Scope 1 increased 3.2% to 79,587 tons CO2e since the baseline year (2008) of 77,080. Thus, the FY12 target of a 6% reduction of Scope 1 has not been met.

Scope 2 increased 19.5% to 114,010 tons CO2e since the baseline year (2008) of 91,741 CO2e. Thus, the FY12 target of a 3% reduction has not been met.

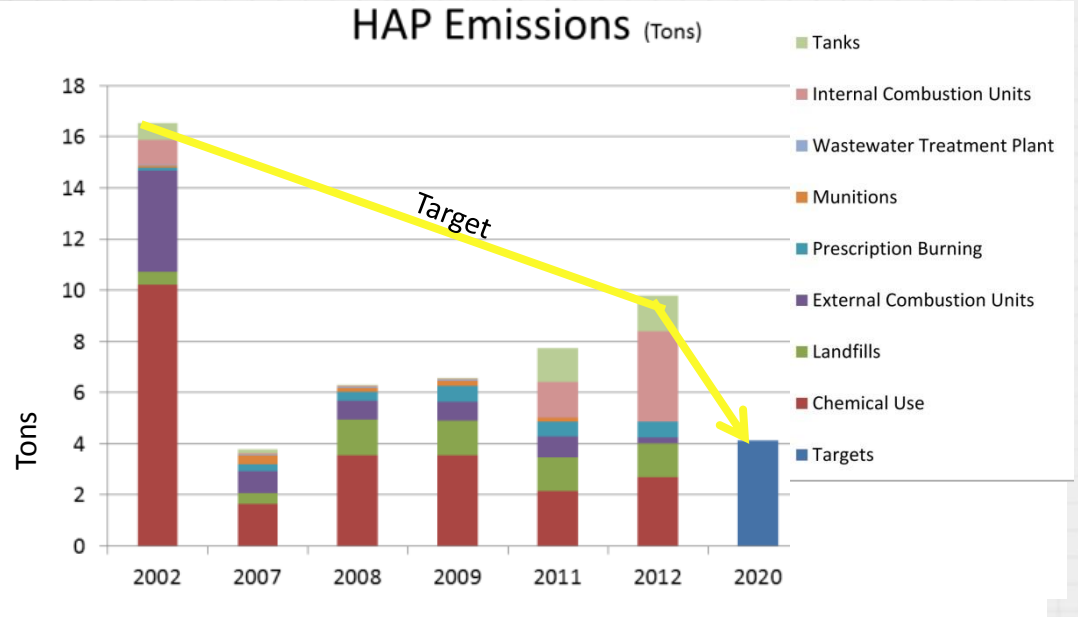
Scope 3 is estimated to be 50,000 tons of CO2e. Scope 3 is difficult to accurately measure because it pertains to sources of GHG emissions not owned or directly controlled by the post. A reduction of 1% of Scope 3 GHG emissions was the FY12 target.

The largest contributors of GHGs are facility utilities and old landfills. Future improvements to building efficiencies, new heating / cooling system technology, and final capping of old landfills will positively impact this situation.

AIR QUALITY

OBJECTIVE Reduce Hazardous Air Pollutant Emissions.

PROGRESS



Hazardous Air Pollutants (HAPs) consist of 187 listed chemicals and compound families. The largest contributors of HAPs are Internal combustion units – boilers, generators, chemical use, and operations and maintenance activities.

Since 2008 Fort Carson emitted 35.6 tons of HAPs for an increase in 9.6% per year. In FY12, 9.795 tons of HAPs was emitted, representing a 40% reduction compared to the 2008 baseline. However, the FY12 target was a 50% reduction compared to the 2008 baseline; this target has not been met.

Other sources of HAPs are gasoline dispensing, paint shop operations, generators and military training activities involving smoke and obscurants and range activities. Mobile sources such as engineering equipment, tactical vehicles and government and personal vehicles also emit HAPs.

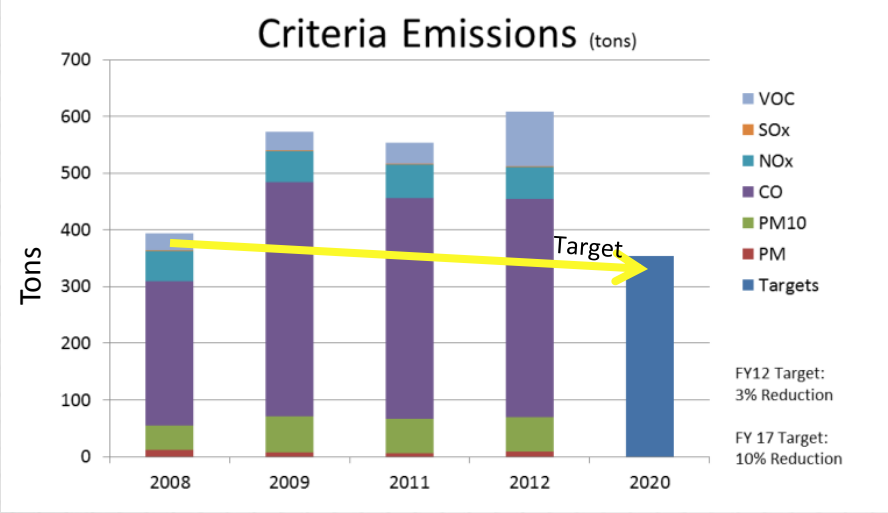
Reducing HAPs on a growing installation while still meeting the military mission is a challenge. To reduce emissions, Fort Carson is tightening the operations of the Hazardous Materials Control Center, aggressively monitors HAP emissions, and promotes initiatives to substitute products containing less harmful chemicals to perform the same function satisfactorily.

AIR QUALITY

OBJECTIVE

Reduce Criteria Pollutant Emissions.

PROGRESS



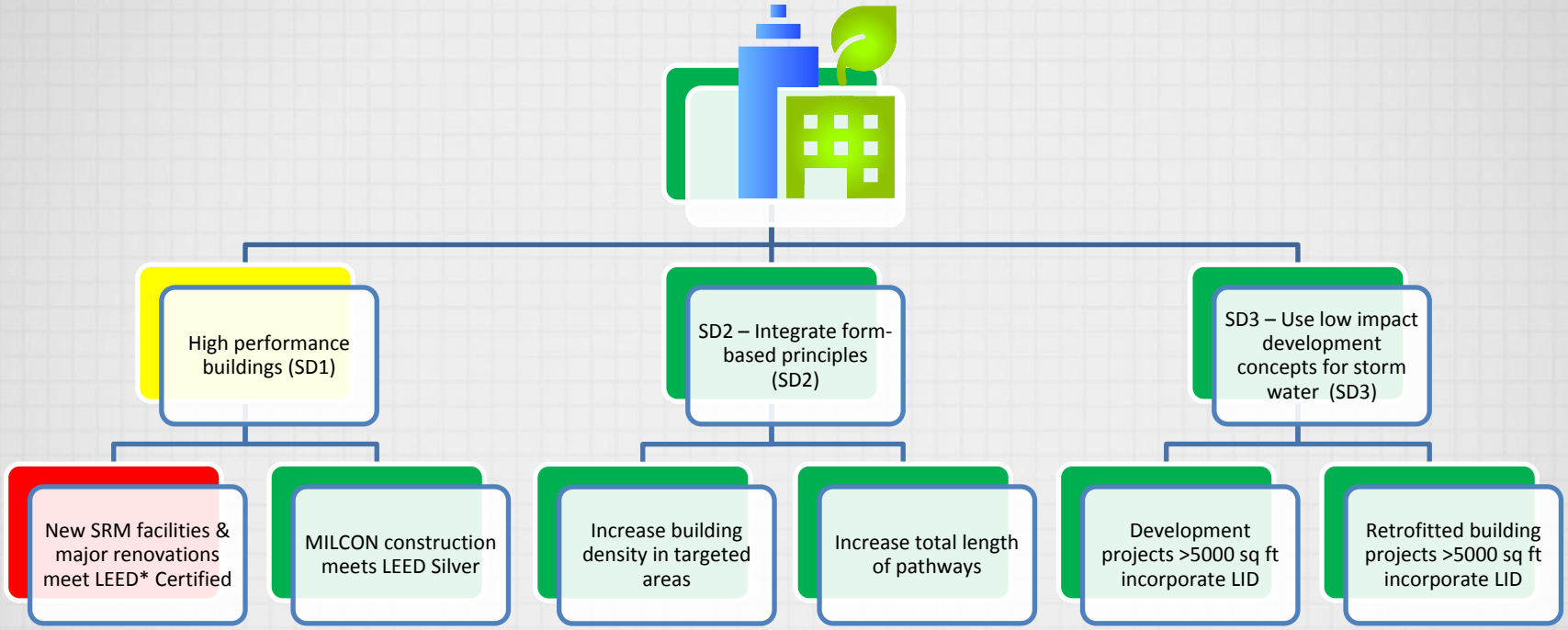
Criteria emissions are driven by the Clean Air Act National Ambient Air Quality Standards, and includes Volatile Organic Compounds (VOCs), Sulfur Dioxide (SO2), Nitrogen (Nox), Carbon Monoxide (CO), Lead, Ozone, and Particulate Matter as shown above. The largest contributor is combustion sources.

Since 2008 Fort Carson emitted 2,088 tons which is an increase of 6.1% per year. In FY12 Fort Carson emitted 608 tons of criteria emissions, which is an increase of 54% compared to the 2008 baseline of 393.8 tons. Thus, the target of 3% reduction of criteria emissions by FY12 has not been met.

This goal is closely tied to GHG initiatives. Reductions in GHGs will result in reductions of criteria pollutants, although the ratio is not 1 to 1 since numerous criteria sources are not also GHG sources.

To reduce emissions, Fort Carson will continue to enforce Installation Design Guide criteria for adding or retrofitting air emissions sources on the installation.

SUSTAINABLE DEVELOPMENT



OVERALL ASSESSMENT

CHALLENGES Population growth, resource availability, legal and other requirements, communicating policies and educating a shifting population, standard design versus innovation

**Leadership in Energy and Environmental Design*

OUTLOOK

OPPORTUNITIES Elevating design and construction guidelines for new construction, achieving new milestones and thus creating new standards in renovation projects with the first LEED certifiable EB (Existing Building) in the Army, "Net Zero Ready" concept for new constructions which exceeds LEED and prepares facilities for future technology implementation, long term planning for sustainable development with Area Development Plans, Green Space Plans and walkable campus approaches

SUSTAINABLE DEVELOPMENT

OBJECTIVE

All New Facilities and Major Renovations of Existing Buildings Will Be High-Performance Buildings that Meet or Surpass the Platinum Standard of LEED.

Fort Carson has one of the largest collections of federally funded U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) certified projects at a single location. At present there are 57 LEED certified buildings on the installation. Generally, these buildings share the following features:

- 90% of LEED projects reduce water for landscaping by 50%
- Average energy savings 33% over code requirements
- 68% projects divert 75%+ construction material from landfills

During FY12, several LEED certified facilities were built, and the major military construction sustainability target was met. Directorate of Public Works renovated Building 1219 to be its headquarters. The project is competing to achieve the first LEED-EB (Existing Building) Gold in the Army. The 47th Brigade Combat Team Brigade Battalion Headquarters (BBHQ) at the Wilderness Road Complex achieved Fort Carson's first Platinum certification. All new facilities and major renovations of existing buildings on Fort Carson will be high performance buildings that meet the certified standard of LEED Silver or above.

We are continually challenged to meet LEED criteria with Sustainment, Renovation and Modernization (SRM) projects due to smaller budgets, very tight timelines, and limited ability to effect major change in existing building renovations. We continue to work with NREL, U.S. Army Construction Engineering Research Laboratory (CERL) and the GSA to find ways to accomplish better energy efficiency and operation of existing buildings.

The next target for this goal is that by FY17 all new facilities and major renovations of existing buildings on Fort Carson will be high performance buildings that minimally meet the Gold Standard of LEED. The Installation is on a glide path to meet this goal.

24 LEED Silver

32 LEED Gold

1 LEED Platinum

The Installation currently has 57 LEED facilities / buildings: 24 Silver, 35 Gold and 1 Platinum.

SUSTAINABLE DEVELOPMENT

PROGRESS

The 47th Brigade Combat Team Brigade Battalion Headquarters (BBHQ) at the Wilderness Road Complex achieved Platinum certification, far exceeding the LEED-Silver minimum requirement. This was achieved at no additional cost to the government by the expert design team dedicated to designing in smart building practices.

The following energy and water efficient features of BBHQ are expected to yield a 73% improvement in energy use over a traditional building of the same size:

- Solar array on-site supplies approximately 62% of the building's electrical power needs.
- Lighting control system provides a 22% savings in energy consumption from interior lighting.
- Rooftop solar hot water system provides more than 20% of the domestic hot water.
- Extremely efficient building envelope.
- Water-saving technologies used are projected to save 42%.

To achieve net-zero water objectives, reuse of the building's waste water for landscape irrigation is under consideration.

Photo courtesy of Mortenson

The 47th Brigade Combat Team Brigade Battalion Headquarters (BBHQ) at the Wilderness Road Complex is a milestone in construction and an example of "Net Zero Ready" Development in which the energy used is produced through passive and renewable energy features.

Building occupant comfort was enhanced by designing an abundance of windows to provide views and natural light for task lighting, an advanced lighting system that adjusts for real time conditions, and air quality-friendly paints and carpets to eliminate off-gassing.

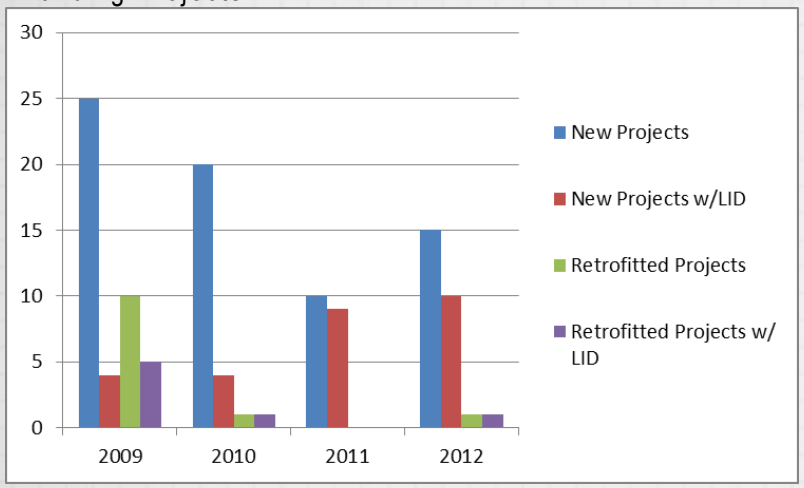
The LEED platinum BBHQ provides an example of a military facility that has achieved the highest standards of sustainability, while setting in place numerous important design and construction guidelines.

SUSTAINABLE DEVELOPMENT

OBJECTIVE

Use LID (Low Impact Development) Concepts and Other Methods To Mitigate Stormwater Impacts through Best Practices.

Percentage Of LIDs Installed In New & Retrofitted Building Projects



In FY12, 10 new development projects were completed that incorporated LID technology. A total of 15 new projects were evaluated, but 5 projects were deemed unfeasible for LID due to topographical challenges and other features incompatible with LID. Thus, 100% of LID-feasible projects were completed, exceeding the FY12 target of 75% and meeting the FY17 target of 100% 5 years ahead of schedule.

To maintain excellent goal progress, LID technologies and design criteria conducive to Fort Carson hydrologic variables and consistent with Fountain Creek watershed protection goals were identified and catalogued.

Jessica Frank, Directorate of Public Works Environmental Division Stormwater Program Manager, takes a water quality reading in Clover Ditch. Her work involves preventing surface water pollution originating from municipal sources, industrial activities and construction.

Sustainable stormwater controls are constructed into the landscape to offset the environmental impacts of new construction and to ensure that new buildings and developed areas are constructed to treat rainfall efficiently.

SUSTAINABLE DEVELOPMENT

OBJECTIVE

Integrate Form-Based Code Principles through Mixed-use Development Providing Pedestrian Friendly Connections, Building Density, and Carless Mobility.

PROGRESS

Demonstrating the Installation's deepening commitment to a holistic approach to taking care of people, Fort Carson completed the construction of a "resiliency campus" in 2012. The campus includes a fitness center, resiliency center, behavioral health clinic, Child Development Center and water feature all in a walkable campus.

The campus concept increased and enhanced green Infrastructure, reduced stormwater impacts and integrated nearby buildings into the master plan.

The density of the walkable campus provides many benefits such as reducing the need for people to drive to services, savings on transportation costs and infrastructure, and proximity to pedestrian and alternative vehicle corridors.

The campus fosters a sense of place and community in keeping with the facilities purpose of mind, body and spirit connection, and the health and wellness of Soldiers, Family members and Civilians. This is key to creating a strong, resilient community, both inside and outside the fence-line.

The mission of Fort Carson's Resiliency Campus is to develop resiliency and self-reliance in Soldiers, Families, Retirees and Army Civilians.

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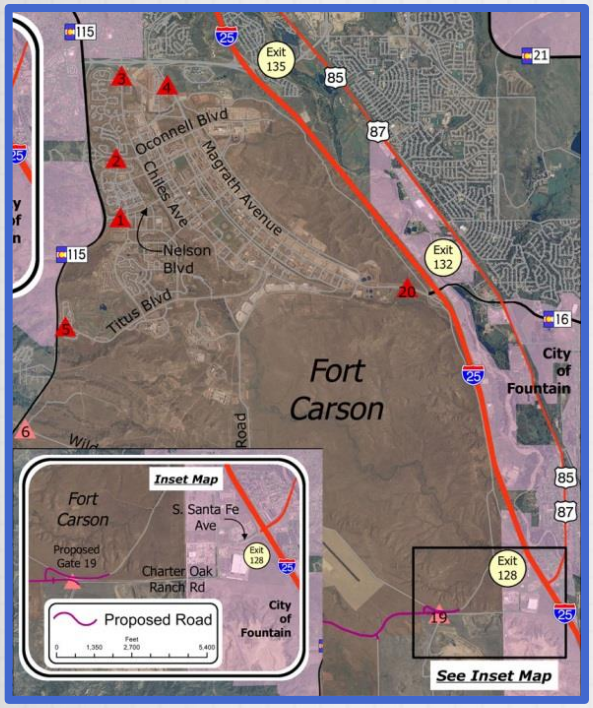
SUSTAINABLE DEVELOPMENT

PROGRESS



Gate 19 is expected to be well used by the combat aviation brigade and the 4th Brigade Combat Team of the 4th Infantry Division. The brigade's headquarters are located just west of the airfield.

Fort Carson continues to maximize land use by directing growth in a coordinated fashion taking multi-modal transportation, space requirements, resource efficiencies, open space and other issues into consideration.

Gate 19, located west of Fountain, opened during FY12 to provide more direct access to Butts Army Airfield and the Wilderness Road Complex, while easing congestion at Gate 20 and the heavily traveled Specker Avenue -Titus Boulevard-Butts Road corridor.

The 52nd Engineer Battalion constructed more than two miles of improved gravel access road leading to Gate 19, providing both construction training and a benefit to the post. A new gate guard facility was constructed.

Improvements to Charter Oak Ranch Road, which provides a direct, 1.5-mile connection between Exit 128 on I-25 and Gate 19, are planned in a partnership effort with Fountain and El Paso County as soon as funding becomes available.

The following projects completed during FY12 provided connectivity to existing infrastructure, enhanced walkable and liveable areas, and tied effectively into existing vehicle and pedestrian networks:

- A new pedestrian crossing in Iron Horse Park
- The 3rd annual bike/walk inspection tour that identified over 50 additional pedestrian improvements for future years
- "Tree pockets", easily maintained brick-like concrete pavers that provide better transport of air and water to root systems, especially in narrow sidewalks, were installed at 10th Special Forces Group parking lot. In addition, the pavers can be re-leveled as trees grow and to reduce tripping hazards.

Planned for FY13 is an extension of a bike / pedestrian trail past Pikes Peak Community College to Gate 4 by El Paso County. Further improvements to this trail on post are planned in FY15.

Nine World War II- era buildings near Iroquois Village are planned to be deconstructed to make way for approximately 120 new junior enlisted housing units in FY13.

SUSTAINABLE DEVELOPMENT

PROGRESS

A pedestrian bridge at B street, constructed as part of a U.S. Army Corps of Engineers Fort Carson rail yard expansion project, provides children a safe method of crossing the railroad tracks to and from their homes and Stratmoor Hills Elementary School.

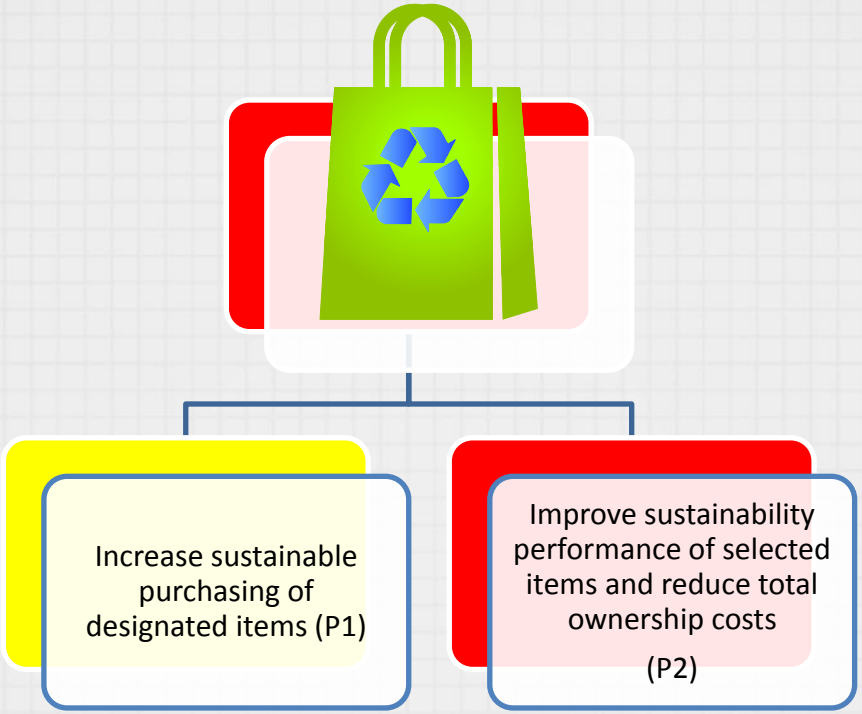
The 249-foot, fully-enclosed bridge eliminates the need for children to cross B Street and Loomis Boulevard to get to school. This benefits approximately 240 students, 80% percent of the school's population. The pedestrian bridge is accessible by two Americans with Disabilities Act-compliant ramps, each ramp consisting of six flights.

The main bridge span's structural steel is comprised of weathering steel, which will change colors as it weathers with time.

The bridge also allows continuous rail operations. As combat operations overseas scale back, the expanded rail yard will continue to play a critical role for the installation in meeting other mission requirements. The future use of the expanded rail yard will continue with deployments of military units to training locations within the United States and to deploy units to and from American seaports.

El Paso County is responsible for general maintenance on the new pedestrian bridge, including snow removal.

SUSTAINABLE PROCUREMENT



OVERALL ASSESSMENT

OUTLOOK

CHALLENGES Data collection, resource availability, cost competitive sustainable products, cost accounting, dispersed purchasing systems, legal and other requirements, communicating policies and educating a shifting population

OPPORTUNITIES Enhanced environmentally friendly and sustainable procurement education for purchasers; More sustainable alternatives through mandated sources

SUSTAINABLE PROCUREMENT

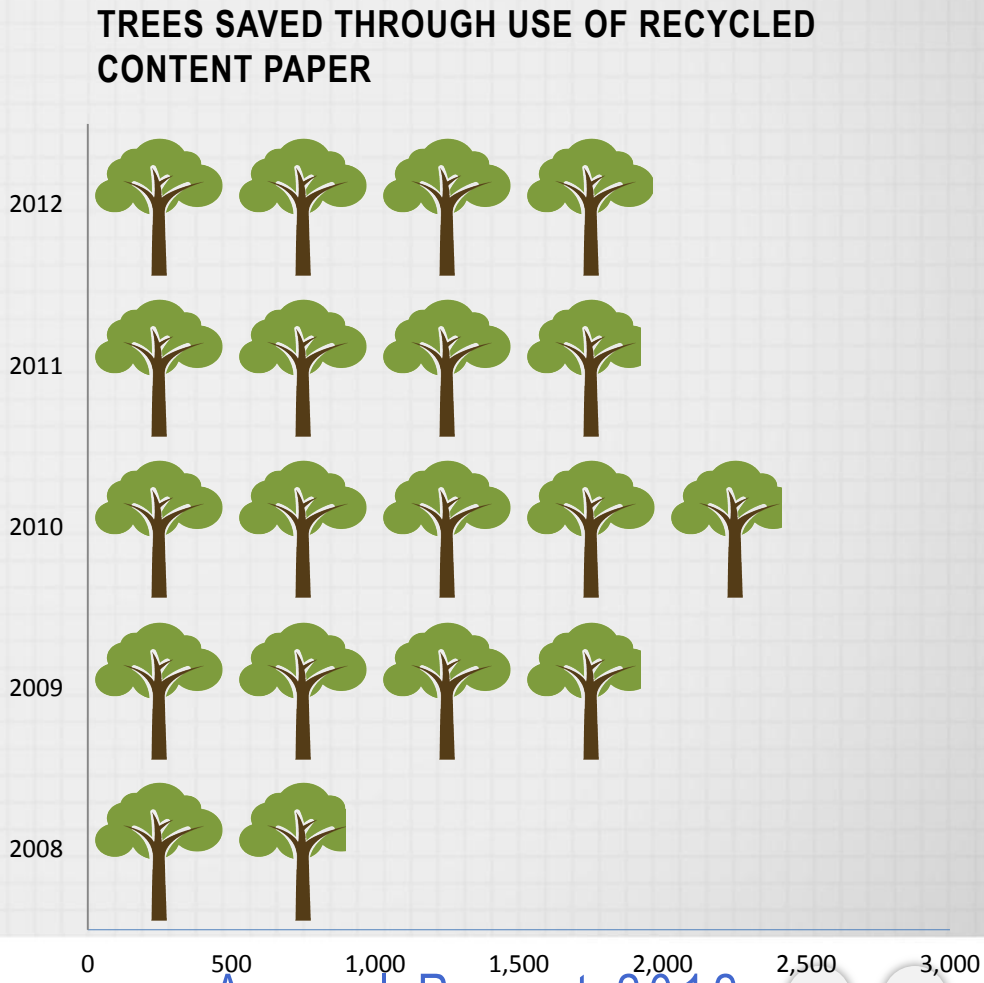
OBJECTIVE

Increase Sustainable Purchasing of Designated Items.

PROGRESS

Purchasing environmentally friendly or “green” products and services is the best way to plan for the proper disposal of products when their useful life is over sometime in the future.

A 2009 paper policy which mandated recycled content has been successful and instrumental in saving thousands of trees. Awareness of the policy and the use of digital communications have helped reduce overall consumption from 9,807 cartons to 7794 cartons in FY12 from Envision, the Installation’s office supplier.



SUSTAINABLE PROCUREMENT

OBJECTIVE

Improve Sustainability Performance of Selected Items and Reduce Total Ownership Costs.

Sustainable procurement is the end result of a path begun by the federal government and the Department of Defense through executive orders and policies of the past 20 years. This goal supports all other goals especially Zero Waste, Air Quality, Sustainable Development and Transportation.

Fort Carson purchases significant quantities of products and services with a reasonable amount of control over its purchasing decisions. However, in order to provide guidance, recommendations about purchasing decisions, and ultimately formulate sustainable procurement policies, product knowledge and research is necessary. Since product components may have environmental and social impacts beyond the knowledge and control of the purchaser, methods such as Lifecycle analysis (LCA) and comparison to alternative sources are encouraged to inform decisions.

Previously, the sustainability team identified 5 products as "hotspots" – i.e. products with potentially significant and / or negative environmental impacts. These hotspot products - batteries, mattresses, lighting, cleaning and laundry systems - were assessed for energy and water intensity, materials management, transportation, and impact to human health. Additionally, "Quick fixes" or immediate recommended actions were provided as an outcome of analysis of products such as computers, food service items and printing paper.

Executive Order	Purpose
EO 13514	Increase energy efficiency Eliminate waste, recycle, and prevent pollution 95% of all product/service contract actions must incorporate environmentally preferable requirements http://www.fedcenter.gov/programs/buygreen/
EO 13423	Design and operate sustainable buildings Reduce water intensity Manage federal fleets to reduce fossil fuel consumption
EO13221	Products with standby power of 1 watt or less (or lowest available) for equipment with internal/external standby power function

The purchase of sustainable products complies with Executive Orders referenced above and laws and regulations: Energy Independence and Security Act (EISA) of 2007; The Energy Policy Act (EPACT) of 2005; Farm Security and Rural Investment Act (FSRI) of 2002; Resource Conservation and Recovery Act (RCRA); the Federal Acquisition Regulation (FAR), and EPA Comprehensive Procurement Guidelines.

SUSTAINABLE PROCUREMENT

PROGRESS

During FY12 an in-depth Life Cycle Analysis (LCA) of mattresses was completed. Mattresses were chosen as a "hotspot" because of the large quantities purchased for use in barracks, hospital and family housing. Soldiers and hospital patients spend significant time in close proximity to these materials while resting and sleeping. While mattresses do not require ongoing use of energy or water once in use, large amounts of resources with significant impacts are used during manufacture and ultimate disposal.

The report focused on three general types of mattresses:

- "Traditional" mattresses comprised of cotton, polyester and coil springs with ticking of a combination of cotton, nylon, or polyester;
- Polyurethane mattresses typically comprised of polyurethane foam or mats surrounded by cotton, nylon or polyester ticking;
- Rubber mattresses with similar covers.

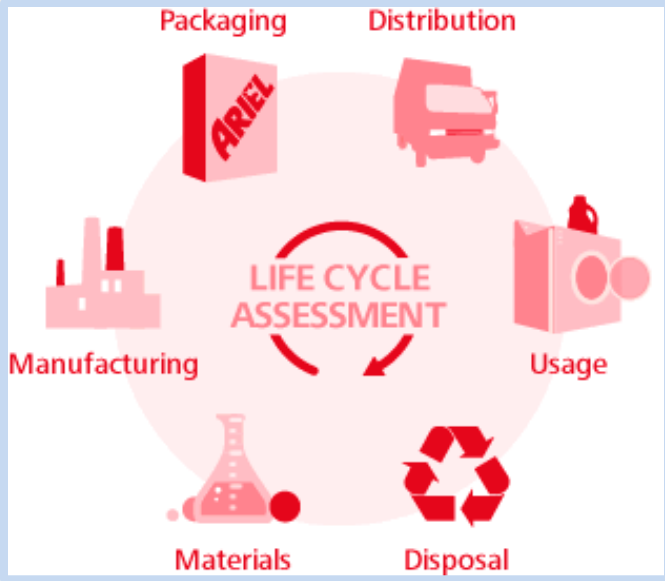
The mattress types were assessed and assigned points from a lifecycle perspective in the following categories:

- Economy (cost-effectiveness and regional / U.S. impacts)
- Society (health of workers involved in manufacture, and the health of the users)
- Environment (greenhouse gas emissions and ecological impacts during the product's life)

The result of the study (in order of most sustainable to least sustainable):

- Cotton futons
- Traditional cotton/polyester/coil
- Polyurethane
- Rubber

The study provided information about emerging mattress designs suitable for barracks with added benefits of recyclability and washability as prominent design features.



Life Cycle Analysis (LCA) determines the environmental impacts of products, processes or services, through the stages shown above.

SUSTAINABLE PROCUREMENT

PROGRESS

A procurement and waste study was conducted in 4 post dining facilities (DFACs). The DFACs were reviewed for current practices and opportunities to purchase more sustainable and reusable products, buy local products and produce and reduce food and other waste streams.

Many sustainable practices were already in place such as:

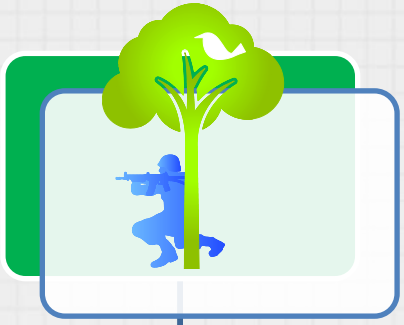
- Use of bulk serving stations.
- Automated hand wash and lighting systems.
- Use of sustainable cleaning products.

Opportunities and recommendations identified to maximize sustainable procurement practices include:

- Use of reusable aprons.
- Removal of paper and plastics from main serving areas.
- Limiting the use of packeted items to the Grab-and-Go area.
- Place cakes and other items in a case instead of wrapping in plastic wrap or placing in plastic containers.
- Working with suppliers to reduce packaging.
- Purchase less out of season produce from overseas.
- Build stronger community relationships; purchase local organic crops.
- Perform energy and water audits.

Many opportunities and recommendations have been implemented with resulting cost savings. The plan is under continual review to keep up to date with changing conditions and emerging technologies.

SUSTAINABLE TRAINING LANDS



Prevent permanent loss (TL1)

Protect lands from encroachment (TL2)

Identify & evaluate cultural resources (TL3)

Maintain biological & natural resources (TL4)

OVERALL ASSESSMENT

CHALLENGES Cycle of deployments and redeployments, intensity of use, resource availability, climate and weather, encroachment, ongoing public concerns, communicating policies & educating a shifting population

OUTLOOK

OPPORTUNITIES Proactive, transparent stewardship resource approach involving other federal and state agencies and concerned citizens, partnerships and collaboration with public, non-governmental and private landowners and organizations, landscape / ecosystem management approaches

SUSTAINABLE TRAINING LANDS

GOAL

Training Ranges; Maneuver Lands; and Associated Air Space Capable of Supporting Current and Future Military Training to Standard While Maintaining and Sustaining Training Resources.

PROGRESS

Training activities down range can create a number of impacts to land and cultural resources; water quality; air quality; and the potential for noise nuisances to neighboring landowners.

Fort Carson endeavors to reduce training impacts by:

- Following all environmental program area regulations and requirements.
- Practicing proper spill prevention.
- Conducting training in designated areas.
- Notifying the public of large-scale, irregular training events.
- Practicing maneuver damage control .

By working to prevent permanent loss of training lands from internal development, or damage from training or natural causes, Fort Carson ensures that it can sustain training for years to come.

FY12 PROJECTS

- Executed the FY12 Integrated Training Area Management (ITAM) land rehabilitation contract to construct 27 erosion control structures, repair maneuver damage from training and re-vegetate training lands at Fort Carson and Pinon Canyon Maneuver Site (PCMS).
- Prevented adverse impacts thru proactive planning and participation in 8 new range and training facilities, and multiple base infrastructure projects.
- Established internal controls to buffer military training from areas containing threatened and endangered species nesting areas.

Future initiatives include managing plant and animal populations to minimize the potential for listing under ESA (Endangered Species Act), thereby adversely impacting training resources, and mitigating the use and presence of unexploded ordnance (UXO) in impact areas to reduce land restrictions.

SUSTAINABLE TRAINING LANDS

OBJECTIVE

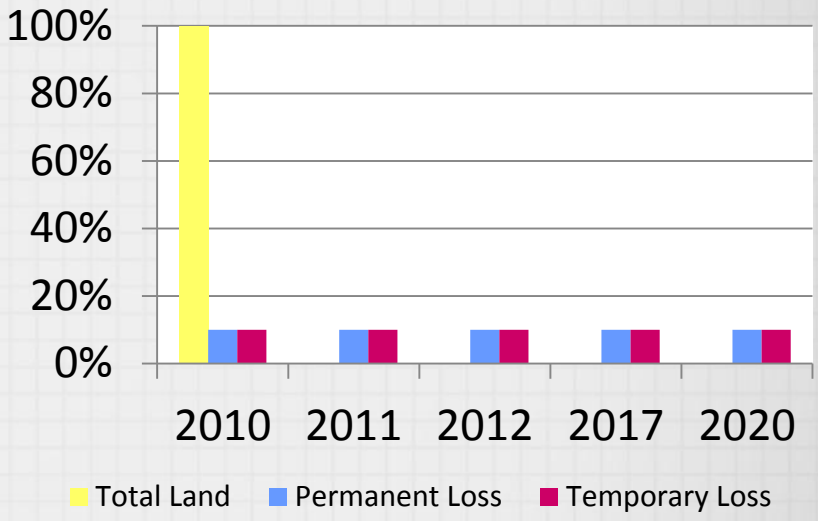
Prevent the Permanent Loss of Any Training Resource Due to Internal Encroachment, Biological, Natural Resource or Other Issue.

PROGRESS

Sustaining the actual land that is used for training is vital to the long-term success of the Mountain Post and its Soldiers. That is no small feat when it comes to a land mass area that comprises more than 339,000 acres between Fort Carson and the Pinon Canyon Maneuver Site.

Reseeding damaged areas, training Soldiers how to use the land in a manner that accomplishes their training requirements while reducing impacts, and pre-planning training exercises are some ways Fort Carson Range Division demonstrates an integral role in ensuring training lands are conserved and properly used.

The Army's Integrated Training Area Management (ITAM) program monitors and assesses the condition of the training lands, determines the best management practices to re-vegetate or rehabilitate areas affected by weather, fire and military training and prevents future damage through maneuver damage education and repair measures that are proven to last.



According to a FY10 assessment, of the total 339,000 acres of training lands available at Fort Carson and PCMS, 306,000 is available for training. This represents a 10% permanent loss which includes encroachment from land use leases and easements with outside parties. This figure does not include lands considered off-limits to training, such as urbanized areas, sensitive ecological or other protected areas. No significant change in the availability of training lands is noted for FY12 or expected in FY13.

SUSTAINABLE TRAINING LANDS

ONGOING PROJECTS & INITIATIVES

Sustaining Army training lands require innovative approaches to energy and water conservation and efficiency, waste reduction, protection of natural and cultural resources, and assessing impacts to wildlife while providing proper equipment and realistic training environment for Soldiers of today and tomorrow.

Continued the use of PV solar lighting and PV solar panels to provide hazard warning illumination and recharge batteries for range targeting systems.

Erected Sprung Shelters to enhance capability of PCMS without the permanent impact or sustainment costs associated with real property construction.

Continued the use of the Compressed Soil Block machine to construct temporary training buildings.

PCMS staff rescued a big-eyed baby great horned owl from being stuck in a fence at the maneuver site in August. The owl flew off once released seemingly uninjured.

PROGRESS

Other initiatives include:

- Coordination for additional dust suppressant application for tank trails and main supply routes near installation boundary.
- Construction of downrange training recycle point to reduce solid waste disposal during training exercises.
- Utilization of Portable Urban Training Buildings to establish IED-Defeat training capability without impacting cultural resource or natural resources.
- Prevention of adverse impacts through proactive planning and participation in 8 new ranges and training facilities, and multiple base infrastructure projects.
- Establishment of internal controls to buffer military training from areas containing threatened and endangered species nesting areas.

Future initiatives include self composting latrines, LEED rated training facilities, the use of biomass generators and LED lighting.

SUSTAINABLE TRAINING LANDS

OBJECTIVE

Protect Fort Carson Ranges and Training Lands from External Encroachment by Creating a Contiguous 1½ to 2-mile Wide Proposed Buffer Around a Significant Portion of the Installation's Southern and Eastern Perimeter.

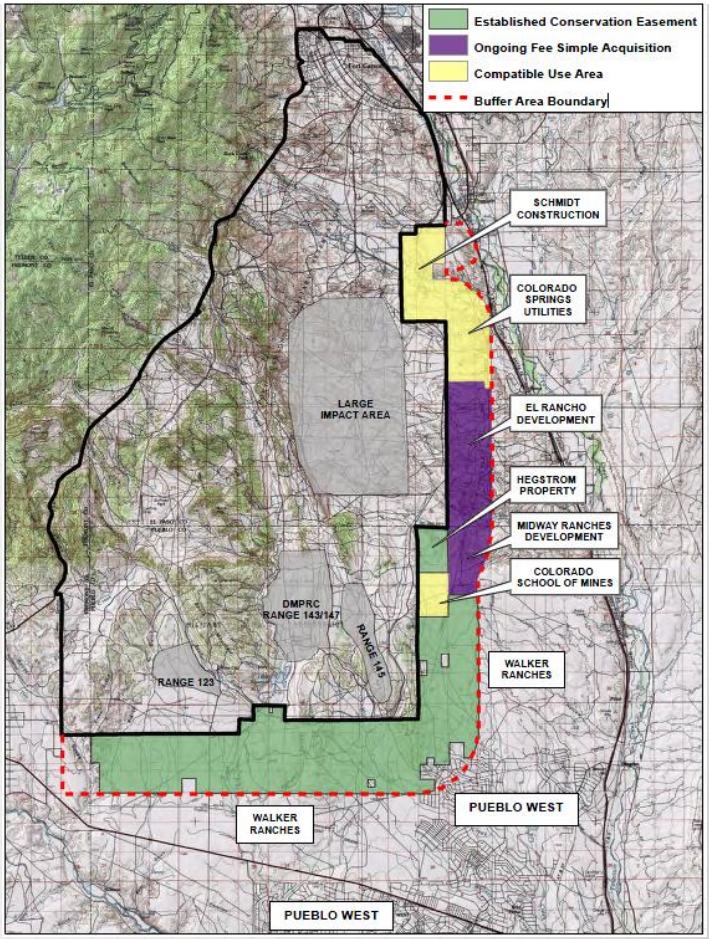
PROGRESS

Conservation easements limit incompatible development, protect natural resources and buffer military training areas. They also allow landowners to maintain their interests in the property as well as use the land for traditional purposes.

The Army Compatible Use Buffer (ACUB) program finalized conservation easements on land bordering the southern and southeastern boundaries, preserving to date a total of 24,192 acres and limiting encroachment along installation boundaries.

Future Initiatives:
Continue partnership and cooperation with The Nature Conservancy (TNC), El Paso County, U.S. Army Environmental Command, and Dept of the Army. Continue to pursue Fee Simple Acquisition of available properties for designation as open space or compatible use in El Paso County. TNC is working on an additional conservation easement in the southwestern buffer area.

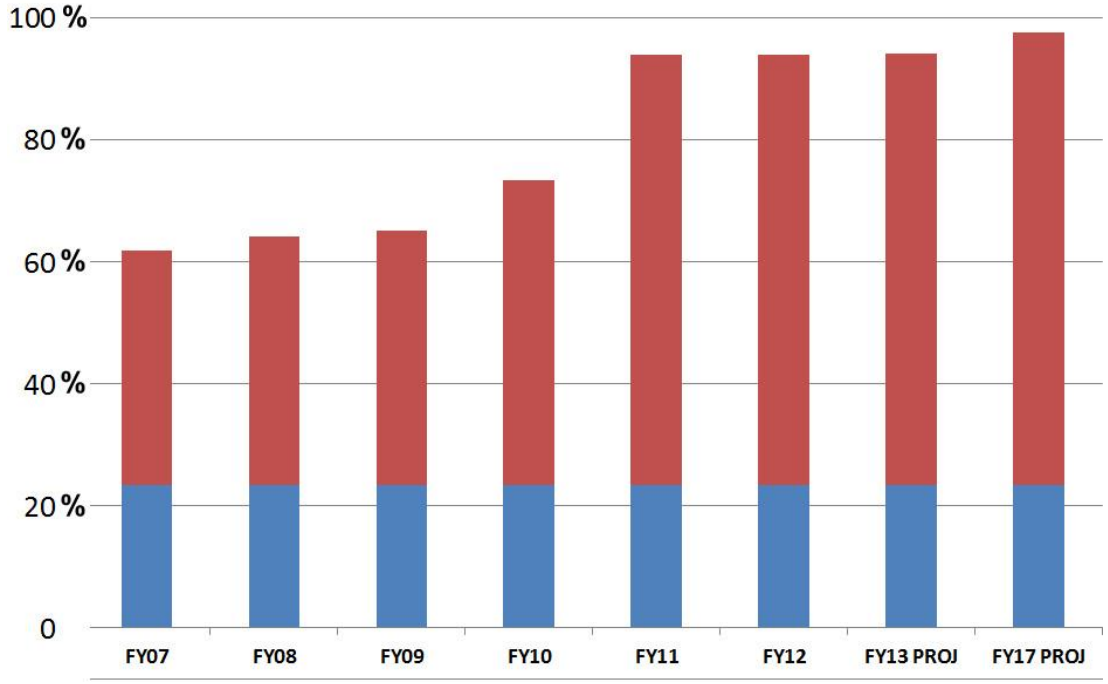
Challenges: Funding



SUSTAINABLE TRAINING LANDS

PROGRESS

Percent of Goal Achieved - Land Area Projected



The installation has achieved 93.85% of its overall compatible use goal of 34,343 acres protected within the 1½ to 2-mile wide external buffer zone separating training ranges from adjacent residential communities.

A total of 24,190 acres of the proposed buffer area is permanently protected. Another 8,040 acres currently has a pre-existing compatible use. Thus 81% of the lands within the approved buffer is currently protected.

The compatible use buffer will ensure that the installation can protect and sustain current and future training capabilities.

	FY07	FY08	FY09	FY10	FY11	FY12	FY13 PROJ	FY17 PROJ
Total Acres of Land Protected within the Proposed Buffer	21,226	22,002	22,370	25,185	32,230	32,230	32,329	33,478
Acres of Land Permanently Protected	13,186	13,962	14,330	17,145	24,190	24,190	24,289	25,438
Acres of Land with Pre-Existing Compatible Use	8,040	8,040	8,040	8,040	8,040	8,040	8,040	8,040

SUSTAINABLE TRAINING LANDS

OBJECTIVE

Meet or Surpass Environmental Management Goals by Identifying, Evaluating and Protecting Cultural Resources on Training Lands in Support of Current and Future Training.

PROGRESS

It is the responsibility of every Federal agency to establish a preservation program to protect and preserve historic properties which it owns or controls. Fort Carson has a vast amount of historic resources that must be managed for the purpose of identification, evaluation and protection.

By the end of FY12, approximately 313,772 acres, over 89% of the total Fort Carson and PCMS lands, had been surveyed.

Fort Carson has been working with the Colorado State Historic Preservation Office (SHPO) to develop built environment and training area programmatic agreements to improve the compliance process. In FY12, the SHPO reviewed 1,021 previously un-assessed sites within the training lands. All site forms and reports for previous surveys and inventories are expected to be completed in FY13.

Fort Carson continues to educate Soldiers and their leaders on the importance of historic preservation and protection of our cultural resources.

FY12 PROJECTS

Seibert stakes are used to mark historical sites many of which exist on active training ground. Garrison staff members from the Cultural Resources Management Team have improved efforts to mark sites eligible for listing in the National Register of Historic Places.

SUSTAINABLE TRAINING LANDS

FY12 PROJECTS

- Completed Historic Architectural Buildings Surveys (HABS) on the 5 major historic ranching complexes at the PCMS and popular publication on historic ranching in southeastern Colorado.
- Site eligibility resolution continues with the SHPO. At present, over 1,000 sites received official eligibility determinations.
- Site protection measures were improved by marking historic properties (100 archaeological sites) within areas used for heavy mechanized maneuver at PCMS. Additional marking will continue in the future.
- Archeological inventory/survey was completed on an additional 6,460 acres of training lands.

One of the many historic architectural buildings on Fort Carson

Future Initiatives:

- Add cultural resource awareness and protection requirements to FC Regulation: 350-1 “Training Guidance”.
- Identify the remaining cultural resources at Fort Carson and PCMS that require protective marking.
- Complete programmatic agreement for the Main Post Area of Fort Carson with the SHPO and ACHP.

Challenges

- Funding challenges continue for FY13 and beyond.
- Potential for increased training area utilization.
- Awareness and education of Soldiers using training lands.

SUSTAINABLE TRAINING LANDS

OBJECTIVE

Maintain Biological and Natural Resources in Sustainable Condition to Support Military Training.

PROGRESS

Fort Carson has an obligation to manage the training lands under its control in such a way as to ensure military readiness while also protecting natural resources and maintaining biological diversity.

The DPW Natural Resources office seeks to build and strengthen partnerships with outside agencies, including the U.S. Fish and Wildlife Service, Colorado Parks and Wildlife (CPW) and the Comanche National Grasslands in order to work cooperatively to maintain healthy ecosystems with viable native populations. The development of a strong partnership with the US Forest Service that helps to reduce costs by sharing contract mechanisms, expertise, equipment and personnel has been beneficial in off-setting the adverse impacts of funding reductions.

Co-operative programs include :

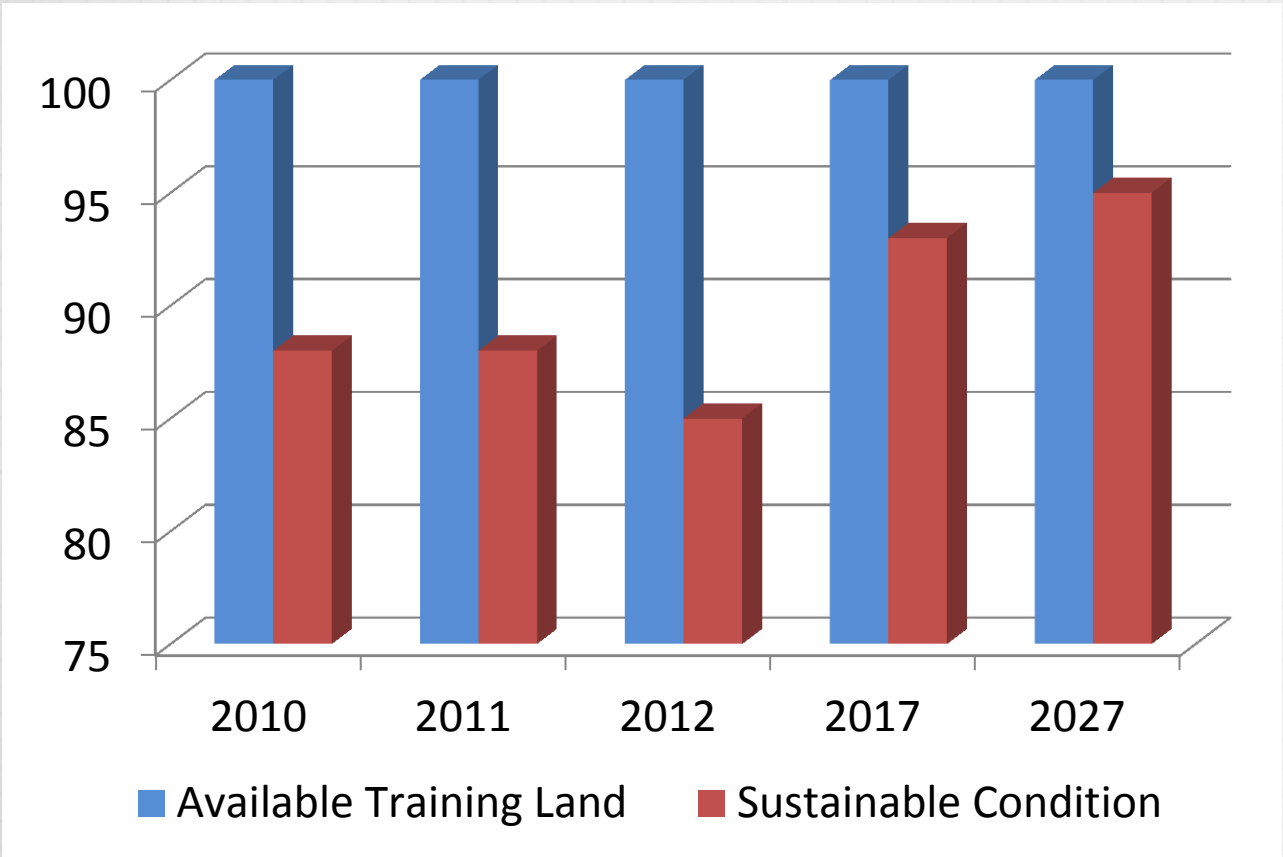
- Invasive species management
- Fire management
- Co-operative forest management
- Trespassing safeguards
- Conservation law enforcement
- Road and shared boundary maintenance

FY12 PROJECTS

As of 2012, 21 water wells have been rehabilitated at the PCMS to provide alternate water sources for wildlife and support for fire fighting in some instances. Our target, subject to funding, is to have 30-35 operating wells for wildlife and firefighting by FY14.

SUSTAINABLE TRAINING LANDS

OBJECTIVE Maintain Biological and Natural Resources in Sustainable Condition to Support Military Training.



All Fort Carson administered or managed lands available for training were evaluated.

Extended drought conditions leading to a loss of ground cover resulted in a lower percentage of training lands rated as good to excellent condition in 2012.

SUSTAINABLE TRAINING LANDS

FY12 PROJECTS

Forest health thinning and fuel reduction in key areas at Fort Carson improve vegetation composition and forage production for wildlife.

Revised Integrated Natural Resources Management Plan :

Currently under revision and pending signatures.

Projects include forest management, wildlife habitat improvement, rangeland management, noxious weed control, prescribed fire, fisheries and outdoor recreation.

Future Initiatives:

- Repair and improve Bambi Bucket pit at PCMS for firefighting.
- Place guzzlers in remote areas used as escape cover by wildlife.
- Watershed modeling study of training impacts and sedimentation.
- Bat Research - Planning level survey with CPW to monitor populations and track disease (white nose syndrome).

Challenges:

Limited funding, personnel shortages and furlough continues to limit our capability to maintaining sustainable ranges and natural resources.

SUSTAINABILITY AWARDS 2012

- SUSTAINABLE PROGRESS THROUGH PARTNERSHIPS • SUSTAINABILITY CHAMPION • EXCELLENCE IN SUSTAINABLE RESOURCES • ACHIEVEMENT IN SUSTAINABLE DEVELOPMENT • SUPERIOR SUSTAINABILITY LEADER

SUSTAINABILITY AWARDS 2012

Each Year Fort Carson Presents Sustainability Awards at The Annual Colorado Sustainability Conference to Recognize the Individuals and Organizations On Post and in the Community Who Are Catalysts for Change and Contribute Toward our Sustainability Goals.

Award #1 - SUSTAINABLE PROGRESS THROUGH PARTNERSHIPS 2012

A partnership of 3 won the award: Evans Army Community Hospital , Discover Goodwill Fresh Start Laundry , Professional Contract Services, Inc.

Evans Army Community Hospital (EACH) is integrating sustainable development, design and business practices in a cost effective manner as it maintains a safe, efficient and effective healing environment for patients and staff. Discover Goodwill Fresh Start Laundry saves Evans Army Community Hospital (EACH) over $50,000 per year on its laundry contract by offering sustainable solutions. These solutions resulted in reducing its carbon footprint and other environmental impacts; specifically by the reduction of petroleum usage (1500 gallons of oil NOT used), use of plastic (354,000 linear feet NOT used) as well as avoidance of landfill disposal. EACH partnered with their housekeeping contractor, Professional Contract Services, Inc. to create a green clean program. By reducing the number of chemicals used, and upgrading to green, and replacing paper cleaning products with microfiber, the outcome of the collaboration is a savings of over 2 million gallons of water per year, a savings of $10,212 on utilities and 22,000 man hours. Many patients and staff have noticed that the new cleaning regime does not irritate their asthma as it does not have an unpleasant chemical smell.

Award #2 - SUSTAINABILITY CHAMPION 2012

Richard Yohn, Directorate of Public Works (Military Recipient)
Rich was part of a team that spearheaded NetZero Waste Facility Initiative in the DPW building. The priorities of the initiative were first to reduce waste generated, then to recycle what was used. To accomplish this, waste baskets were removed from workspaces to motivate people to change their behavior to make better choices about what they buy and bring in to work. The already robust recycling program was expanded to include compost. The team weighs trash and compost generated from workspaces and makes the information available on its sharepoint site for immediate feedback to personnel.

Sarah White, Pikes Peak Area Council of Governments (Community Recipient)
Sarah, a previous team member of Sustainable Fort Carson, motivated and received support from nearly 100 stakeholder organizations who donated thousands of hours in creating the Regional Sustainability Plan. The Plan supports Fort Carson in achieving sustainability goals and net zero. Sarah's ability to work cooperatively with a diversity of stakeholders and communicate the importance of the Plan to the public with energy and passion was critical to the successful completion of the Plan.

SUSTAINABILITY AWARDS 2012

Award #3 – EXCELLENCE IN SUSTAINABLE RESOURCES 2012

Army Community Services (Military Recipient)
Ms. Pat Randle and the staff of ACS have demonstrated commitment to Sustainable Fort Carson's goals and objectives. In addition to wellness and resiliency services, ACS initiatives have had environmental impact such as the paperless client files process that has an anticipated savings of more than $100,000, promotion of recycling and reduction of other paper usage in its operations, and electronic recycling support. ACS actively communicates and motivates sustainability practices to clients and staff.

Steve Moorhead (Community Recipient)
Mr. Steve Moorhead spearheaded "Water Returns", an educational partnership of water utilities, homeowners associations, and commercial facility management organizations that combines resources and outreach efforts to teach homeowners about sustainable landscaping. Over 500 individual homeowners have been trained since the partnership began 5 years ago. Fort Carson participates in Water Returns Program Training as a strategy to reduce the amount of potable water consumed.

Award #4 - ACHIEVEMENT IN SUSTAINABLE DEVELOPMENT 2012

Craig Reeder, Directorate of Public Works (Military Recipient)
Craig Reeder is an innovator in Low Impact Development (LID) stormwater designs. Working with the stormwater team, he recently developed a LID design that included the use of pervious pavement and innovative stormwater inlet/outlet techniques. He has pioneered this effort through several high visibility projects, including the recently opened Mountain Post Resiliency Campus. He is known for designing projects that achieve fantastic results while using minimum materials.

Colorado Springs Urban Intervention (Community Recipient)
On September 21, this group of visionary planners, architects and 80 volunteers created a 24 hour living urban experiment on Pikes Peak Avenue called "Better Block Pikes Peak". The purpose was to demonstrate everyday life on Pikes Peak Avenue with the street designed for the pedestrian, not their car. This project is a potential game-changer in urban planning because city employees, planners and citizens can actually EXPERIENCE the concept instead of relying on typical urban planning tools.

Award #5 - SUPERIOR SUSTAINABILITY LEADER 2012

Major David J. Zajac and the Evans Army Community Hospital (EACH) "Green Team" (Military Recipient)
With the leadership of MAJ David Zajac, and support of its "Green Team", EACH implemented a sustainability Major achievements include: over $10,000 in water savings, 15% of energy from renewable resources, an extensive recycling program that includes non-hazardous pharmaceuticals, removal of mercury from the facility, recycling of 875 tons of construction and demolition debris from construction projects, and reduction of food waste from the DFAC, employee award programs, and Bike to Work competitions. As a direct result of its comprehensive sustainability program, Evans Army Community Hospital (EACH) has already saved more than $500,000 in FY12, just a year after the program's founding.

Alicia Archibald (Community Recipient)
Alicia's work as Executive Director of Southern Colorado Clean Cities Coalition had direct impact in securing $500,000 grant funding for statewide electric vehicle infrastructure planning and education. Her hard work and dedication at Bestway is the reason the company has been so successful in the launch of its recycling facility here in Colorado Springs. Alicia is also a major force behind the growing success of the company's commercial composting initiatives. Alicia is a former team member of Sustainable Fort Carson.

Fort Carson embraces sustainability as a partnership between our present and our future. We are committed to accomplishing all of today's missions in a way that will allow our successors to accomplish all of tomorrow's missions. In doing so, we pledge to constantly improve the ways we care for, save, replenish and find new and better uses for all of the resources entrusted to us.

SUSTAINABLE FORT CARSON

For more information about Sustainable Fort Carson or the contents of this report call (719) 526-9777 or go to www.carson.army.mil

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